THE BULLETIN

of the

AMERICAN ASSOCIATION

of

NURSE ANESTHETISTS

AUGUST

1940

VOLUME 8 NUMBER 3

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BULLETIN OF THE AMERICAN ASSOCIATION OF NURSE ANESTHETISTS

The Bulletin of the American Association of Nurse Anesthetists is published by the American Association of Nurse Anesthetists; Executive, Editorial and Business Offices, 2065 Adelbert Road, Cleveland, Ohio.

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EDITORIAL COMMUNICATIONS

The Bulletin invites concise, original articles on anesthesia. Description of new technics and methods are welcomed. Articles are accepted for publication with the understanding that they are contributed solely to the Bulletin of the American Association of Nurse Anesthetists.

Manuscripts submitted for publication may be sent to Gertrude L. Fife, University Hospitals, Cleveland, Ohio.

The American Association of Nurse Anesthetists does not hold itself responsible for any statements or opinions expressed by any contributor in any article published in its columns.

Manuscripts. — Manuscripts should be typewritten on one side of the paper only, with double spacing and liberal margins. References should be placed at the end of the article and should conform to the following style: viz., name of author, title of article, and name of periodical with volume, page, and year.

Illustrations accompanying manuscripts should be numbered, provided with suitable legends, and marked on margin or back with the author's name, Authors should indicate on the manuscript the approximate position of text figures.

Illustrations — A reasonable number of half-tones will be reproduced free of cost to the author, but special arrangements must be made with the Chairman of the Publishing Committee for elaborate tables or extra illustrations.

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The Bulletin of the American Association of Nurse Anesthetists

VOLUME 8, NO. 3 AUGUST, 1940

THE CONTENTS

BOSTON — 1940 CONVENTION CITY

Historic Boston, over three hundred years old—the birthplace of American liberty, is the capital of the Commonwealth of Massachusetts, a city of over two and a quarter million. It boasts of two hundred universities, colleges and schools, of which the major ones are Boston University, Harvard, Massachusetts Institute of Technology, Radcliffe, Wellesley, Tufts, Simmons, Boston College, New England Conservatory of Music, Northeastern, and Massachusetts School of Art.

To enumerate but a few interesting spots that have a universal appeal: From the tower of the Custom House a wonderful panorama of the city may be seen; the Boston Navy Yard has been in continuous operation since 1800 and covers 123½ acres; five museums are open to the public, including Natural History, Fine Arts and the Isabella Stewart Gardner Museum—a marble palace. Many tours of scenic and historical interest may be taken through Boston and around the North and South shores; for example, Marblehead, a typical old New England town with narrow streets and interesting old houses and doorways, and the picturesque rustic cottages of the fishermen which attract tourists from all over the world; Cape Ann, a promontory which extends out into the Atlantic Ocean, with beautiful rocks, beaches and rolling sea; and Plymouth Rock.

Post-convention tours which include Plymouth, the Pilgrim Shore, Cape Cod, and the islands off the South Shore, have been arranged by the American Hospital Association for those who wish to see more of the romantic beauty of this storied section.

Hotel Touraine

HOTEL HEADQUARTERS

Hotel Touraine, located opposite Boston Common at Tremont Street, is near transportation facilities, the shopping district and leading theaters. All rooms large, with outside exposure. Rates: Single rooms, $3.50 to $5.50; double rooms, $5.00 to $7.00, or with twin beds $5.50 to $7.50; extra guest in room, with day-bed, $1.50 daily.

MAKE RESERVATIONS EARLY.

EIGHTH ANNUAL MEETING

AMERICAN ASSOCIATION OF NURSE ANESTHETISTS

September 16 to 19, 1940, inclusive

BOSTON, MASSACHUSETTS

Held in conjunction with the American Hospital Association

HEADQUARTERS: HOTEL TOURAINE

All general sessions will be held in the Convention Hall

Registration:

Convention Hall—Monday, September 16 to Thursday, September 19 inclusive

9:00 A.M. to 12:00 P.M.
2:00 P.M. to 4:00 P.M.

Registration fee — $1.00

Members and guests are also asked to register with the American Hospital Association

Badge is entrance requirement for all convention sessions

Tickets for banquet, luncheon and breakfast should be secured at the Registration Desk as early as possible

Commercial and scientific exhibits open daily from 9:00 A.M. to 5:00 P.M.

TENTATIVE PROGRAM

Sunday, September 15

MEETING OF THE BOARD OF TRUSTEES

Hotel Touraine

Monday, September 16

REGISTRATION — CONVENTION HALL

9:00 A.M.—12:00 P.M.

GENERAL SESSION

2:00—4:30 P.M.

Miriam Shupp, President, Presiding

Invocation

Reverend Carl Heath Koph, Boston; Mt. Vernon Congregational Church

Address of Welcome

The Honorable Maurice J. Tobin, Mayor of Boston

Greetings from the American Hospital Association

Fred G. Carter, M.D., Cleveland, President
Superintendent, St. Luke's Hospital

"Building Esprit de Corps"

James A. Hamilton, New Haven; Superintendent, New Haven Hospital; President, American College of Hospital Administrators

"Anesthesia in the Army Hospitals"

Beatrice M. Quin, Washington, D.C. , Army Medical Center, Walter Reed General Hospital

Tuesday, September 17

BUSINESS SESSION

Convention Hall

9:30 A.M.—12:00 P.M.

Miriam G. Shupp, President, Presiding

Roll Call

Reading of Minutes

Reports of:

President	Miriam G. Shupp
Executive Secretary	Anna Willenborg
Treasurer	Gertrude L. Fife
Standing Committees:	
Curriculum	Rosalie C. McDonald
Education and Educational Correlating	Helen Lamb
Membership	Theresa Hammond
Nominating	Dorothy M. Hoadley
Publications	Gertrude L. Fife
Revisions	Ruth Botsford
Trust Fund	Verna M. Rice
Special Committees:	
Questionnaire	
Seal	Louise Schwarting

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12 Noon—Luncheon

(See Special Events)

GENERAL SESSION

Convention Hall

2:00—4:30 P.M.

Helen Young Walker, Philadelphia, Presiding

"Vital Capacity in Relation to Postoperative Pulmonary Complications"

Elliott Carr Cutler, M.D., Boston; Moseley Professor of Surgery, Harvard Medical School; Surgeon-in-Chief, Peter Bent Brigham Hospital

"Prevention of Cerebral Complications following Surgical Operation"

Albert Behrend, M.D., Philadelphia; Attending Surgeon, Rush Hospital for Consumptives; Assistant Surgeon, Jewish, Mt. Sinai, Philadelphia General Hospitals

"Carbon Dioxide Hyperventilation Postoperatively"

Donald S. King, M.D., Boston; Associate in Medicine, Harvard Medical School; Associate Physician, Massachusetts General Hospital

"Ether in Thoracic Surgery"

Elizabeth Nisbet Wates, R.N., Sanatorium, Miss.; Chief Anesthetist, Mississippi State Sanatorium

7:00 P.M.

Banquet — Hotel Touraine
Music
Invocation — Reverend Howard M. Lowell
Introduction of Guests
Guest Speaker

Wednesday, September 18

8:00 A.M. Clinics:

Peter Bent Brigham Hospital
Children's Hospital
Massachusetts General Hospital

11:00 Tour through Harvard Medical School

GENERAL SESSION

2:00—4:30 P.M.

Convention Hall

Myra Van Arnsdale, Cleveland; St. Luke's Hospital, Presiding

"Anesthesia in Plastic Surgery"

Regina M. Noon, R. N., St. Louis; Anesthetist to V. P. Blair, M.D., Barnes Hospital

"The Diabetic Patient as a Subject for Anesthesia"

Howard F. Root, M.D., Boston; Instructor in Medicine, Harvard Medical School; Physician, New England Deaconess Hospital

"Hazards in the Use of Explosive Anesthetics"

J. Warren Horton, Cambridge, Mass.; Associate Professor of Biological Engineering, Massachusetts Institute of Technology

"Problems of Anesthesia Service in Small Hospitals"

Carin H. Pedersen, R.N., Portsmouth, New Hampshire; Assistant Superintendent and Anesthetist, Portsmouth General Hospital

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4:30—6:00 P.M.

MEETING OF ADVISORY COUNCIL

Convention Hall

Miriam Shupp, President, Presiding

Thursday, September 19

8:00 A.M.

Hotel Touraine

INSTRUCTORS' SESSION

(Breakfast Conference)

Helen Lamb, Chairman Educational Committee, presiding

SIGHT-SEEING TRIP

Leaving Hotel Touraine at 10:30 A.M.

GENERAL SESSION

Convention Hall

2:00—4:30 P.M.

Miriam Shupp, President, Presiding

Round Table

Conducted by Esther C. Myers, New Orleans Charity Hospital

Unfinished Business

Report of Tellers

Introduction of New Officers

NOTICE

The annual business meeting of the University Hospitals (Lakeside) School of Anesthesia Alumnae Association will be held in Boston during the convention of the American Association of Nurse Anesthetists. The time and place will be given in the "Special Events Division" of the program of the American Association of Nurse Anesthetists included in the official program of the American Hospital Association.

OFFICIAL NOTICE

July, 1940

The members of the American Association of Nurse Anesthetists are hereby notified that revisions and amendments to the By-Laws will be presented for consideration at the business session of the annual meeting, which will be held in Boston, Mass., September 16-19, 1940.

(signed) RUTH BOTSFORD
Chairman Revisions Committee
CORA MCKAY
S. LOUISE FITZGERALD

PENTOTHAL SODIUM-OXYGEN ANESTHESIA IN GENERAL SURGERY: A METHOD OF ADMINISTRATION

T. C. DAVISON, M.D.,
Associate Professor Clinical Surgery, and
FRED. F. RUDDER, M.D.,
Assistant in Surgery, Emory University Medical School, Atlanta, Ga.

Read at the Southeastern Assembly of Nurse Anesthetists, held at Edgewater Park, Miss., March 28-29, 1940.

Ever since Crawford W. Long of Georgia first used ether as a general anesthetic in 1842, the medical profession has been trying to find an ideal anesthetic; and for the past forty years there have been constant efforts to improve those agents and methods already in use. Ten years ago J. T. Gwathmey, of New York City, stated that he believed any further improvements would come from a combination of the anesthetics now in use.

The latest approach to this problem has been the use of anesthetics by the intravenous route. Evipal has stood the test of time and has accomplished two things:

1. Established the safety of intravenous anesthetics.
2. Showed the possibilities for further development of anesthetic agents and paved the way by popularizing the intravenous route for producing anesthesia.

In 1934 the Abbott Laboratories introduced a new barbituric acid compound called sodium pentothal. Chemically this drug is sodium ethyl (1 methyl, butyl) thio-barbiturate. Its toxicity is about the same as evipal but it is 30 to 50 per cent more potent.

The most outstanding features of this compound are: It is an ultra-short acting barbiturate with an excessive, fast, destructive rate. It is broken down rapidly by the liver and no trace remains in the body after three hours. It has little or no effect on the blood chemistry constituents, or on hepatic or renal function. The elevation of blood sugar is negligible. There is no sweating and no loss of fluids. The temperature of the extremities is usually one to two degrees higher than that of the body.[1]

Electrocardiograms taken before, during and after operation on normal individuals and on patients suffering with cardiac damage showed no abnormal complexes. Like all barbiturates it is a marked respiratory depressant: the rate is not appreciably influenced but the amplitude is decreased as the depth of anesthesia is increased.

Since the introduction of sodium pentothal one hundred and seventy articles regarding its use have been published in this country and abroad.[3] Thirty-five thousand case reports have been recorded following its use, and approximately 100,000 patients have been given this new anesthetic. Lundy of the Mayo Clinic, Rochester, Minn., reported 12,000 cases[2]; Carraway of Birmingham, Alabama, 3,000,[4] and

Thomas of Pittsburg, Penna., 5,500, with no deaths.[5]

We are reporting 1,139 consecutive cases in which this anesthetic was administered during the past fifteen months. Both private and service cases are included.

SEX:—female, 683; male, 456.
Total, 1,139.

AGE INCIDENCE:—Youngest, sixteen months; oldest, eighty-one years.

The majority of the patients were in the second, third and fourth decades of life. Fifteen per cent were over the age of fifty. Our experience with children under the age of ten has been limited. We know that it takes a relatively larger dose of the drug for children than for adults. This anesthetic is a godsend to elderly patients; they need only a small amount of the drug and the normal metabolic functions are not disturbed appreciably.

SURGICAL RISKS. Good, 957. Fair, 121. Poor, 61.

Sodium pentothal has been put to a considerable test, more than 15 per cent of the cases being either fair or poor risks. A number of our patients were given sodium pentothal purposely because it was felt that their chances for recovery would be better with this anesthetic.

MAJOR SURGICAL PROCEDURES—928 cases, or more than 80 per cent. This proportion is higher than in a previously reported series. We feel that with experienced anesthetists and the administration of oxygen, major surgical procedures can be accomplished safely with this anesthetic agent.

The following table shows the total number of cases from the Atlanta hospitals.

TABLE I

Type of operation	*Number of cases*
General surgery	574
Gynecological	212
Ear, eye, nose and throat	88
Orthopedic	50
Urological	133
Neurological	32
Dental	10
Plastic	33
Others	7

Approximately 800 of these anesthesias were given by the staff anesthetists at the Georgia Baptist Hospital, Atlanta. General surgery and gynecology account for the majority of the cases.

PARTIAL LIST OF OPERATIONS:

Appendectomy	334
Stomach operations	30
Gallbladder	37
Perforated peptic ulcer	5
Breast operations	20
Rectal operations	26
Thyroidectomy	40
Herniorrhaphy	2
Blood vessel surgery	7
Hysterectomy	104
Vaginal plastic and pelvic operations	63
Cesarean	6
Ectopic pregnancy	1
Laminectomy	5
Brain tumor	3

DURATION OF ANESTHESIA. The shortest time was three minutes and the longest time four hours and fifteen minutes; and the average time was forty minutes. As a rule prolonged operative procedures were well tolerated. However, with such remarkable relaxation of the patient and in the absence of shock, the slow operator made no special effort to get the patient off the table. The prolonged anesthesia has an accumulative effect on the patient; also, delayed shock may develop due to prolonged trauma to the tissues and loss of blood. Therefore we do not de-

lay completion of the operation any longer than is absolutely necessary.

DOSAGE — The smallest dose was .1 gram to 16 months old baby; the largest dose was 4.7 grams; and the average was 1.3 grams. As with any other anesthetic the dose depends on the individual. Children require more than adults according to their body weight. Young, vigorous adults and alcoholics may require 1.0 gram before going to sleep. Aged patients require very small doses. Preanesthetic medication plays a definite rôle in the amount of the drug necessary for satisfactory results. If the patient is drowsy when he comes to the operating table the dosage required is much less. We use routinely sodium amytal, nembutal or cyclopal sodium, at 9:00 P.M. of the evening preceding the operation, and again two hours before the operation. One hour before operation 1/3 grain of pantopon with 1/150 grain of atropine is given. We use pantopon instead of morphine because there is less postoperative nausea and vomiting. Atropine is one of the "musts" when using pentothal, because it diminishes the chance of laryngeal spasm, hiccoughs, sneezing and coughing.

The dosage of sodium pentothal is tabulated in four types of operations, as follows:

TABLE II

DOSAGE IN GRAMS

Type of operation	No. of cases	Smallest	Largest	Average
Appendectomy	140	0.6	4.0	1.5
Hysterectomy	50	1.0	3.4	1.8
Thyroidectomy	36	0.5	1.2	1.0
Herniorrhaphy	26	0.8	1.2	1.0

RESULTS OF ANESTHESIA

From the patient's standpoint the anesthetic was 100 per cent satisfactory; seven cases, or less than 1 per cent, were reported unsatisfactory from the anesthetist's and surgeon's standpoint. One failure was due to the fact that the patient was never anesthetized.

A long-beveled needle was used and part of the solution was given in the vein and part around the vein. Although 20 cc. of a 5 per cent solution was given, no sloughing or discomfort occurred.

In three patients upon whom bronchoscopic examination was attempted, the anesthesia proved unsatisfactory due to lack of relaxation and coughing. The laryngeal reflex is the last to be abolished.

One patient had a submaxillary duct obstruction. Breathing became difficult when the tongue was pulled on.

One patient with a gunshot wound of the abdomen suffered from shock, and the anesthesia was supplemented with ether.

One patient vomited at the beginning of a gallbladder operation; a spinal anesthetic was then administered.

METHOD OF ADMINISTRATION

The safety and controllability of this powerful drug is due to two factors:

1. Short action.
2. Rapid destruction in the body.

In order that one anesthetist, unassisted, might give the drug and have both hands free, one of us (F.F.R.) devised a syringe holder with a rack and pinion gear. This apparatus allows the drug to be given slowly, evenly and drop by drop intermittently as needed, by simply turning the gear wheel with the thumb and index finger. (See Figures I and II.)

The advantages of the apparatus are:

1. A 50 cc. syringe capacity allows the completion of the majority of cases without refilling the syringe.

2. It allows one anesthetist without assistance to give an anesthesia of usual duration without fear of dislodging the needle from the vein. Both hands are free.

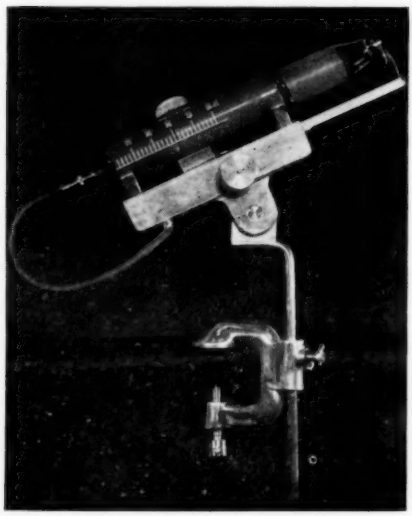

Fig. I

Note adjustability to any position. "Catch" holds the glass adapter on end of rubber tubing to prevent its contamination.

3. No back flow into the needle is possible, thereby preventing occlusion of the needle by clotting.

4. It is adjustable in any position.

The technique as worked out at the Georgia Baptist Hospital is as follows:

1. 2½ per cent solution made by adding 1.0 gram of the drug to 40 cc. of distilled water. This solution is drawn into a 50 cc. syringe with a large 13 gauge needle 2½ inches long. A small rubber connecting tube 6 inches long is attached to the syringe; a glass adapter is attached to the other end of the tubing.

2. Arm board is fixed to table and the patient's arm adjusted.

3. Syringe holder is clamped to arm board and raised to desired level.

4. Syringe is snapped into syringe holder and glass adapter on rubber tubing inserted into "catch" underneath syringe holder, to prevent contamination of adapter.

5. A vein at the elbow is entered with a short-beveled 20 gauge needle 1 inch long.

6. Glass adapter connected to needle, and needle and adapter firmly fixed to arm with two strips of adhesive.

The patient is then asked to count aloud and the solution is given very slowly. The counting usually ceases in from 30 to 45 seconds, after 8 to 10 cc. of solution have been given. After

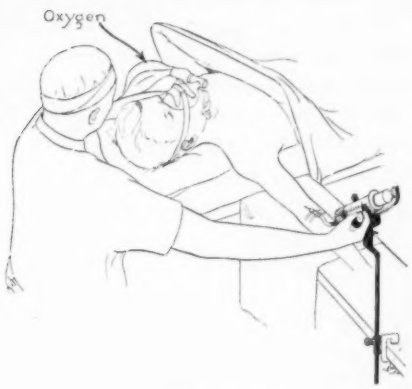

Fig. II

Anesthetist holding up patient's chin with one hand and administering sodium pentothal from syringe by simply turning the gear wheel on the syringe holder.

waiting for ¾ to 1 minute 2 to 3 cc. are given slowly. The oxygen mask is adjusted and oxygen is administered usually at the rate of 3 liters per minute, or as the patient's condition war-

rants. The patient is pinched with a toothed forcep and if there is no movement the operation may start. Indications for more of the drug are any movement, phonation, or stiffening of the jaw muscle. A nasal catheter may be used for operations on the face and oral passages. The best single guide for the depth of anesthesia is the respiration. The degree of relaxation of the jaw is also a good guide for depth of anesthesia. The eye signs are of little value. There is little or no change in the pulse rate and blood pressure.

We advocate 5 per cent glucose intravenously in all prolonged surgical procedures. This is given readily by attaching an ordinary two-way stopcock at the needle. In case more than 1.0 gram of pentothal is given, the syringe may be readily refilled by temporarily discontinuing the glucose and drawing the solution from the container through the stopcock.

If shock is impending, either 2 cc. of metrazol, intravenously; 1 cc. of coramine; or 2 cc. of picrotoxin of a .3 per cent solution are used. Carbon dioxide may be used as necessary.

COMPLICATIONS

1. *Phlebitis.* Two patients who had each received 5 per cent solution had marked sclerosis of the veins extending from the elbow to the deltoid region. The condition cleared up within three to four weeks with no permanent ill effects. Since then we have used 2½ per cent solution and have not had other cases of phlebitis.

2. *Drug idiosyncrasies.* Two patients developed a generalized skin rash resembling scarlet fever six hours after the anesthetic was given, with temperatures of 101° to 103°, the condition clearing up within forty-eight hours, with no further ill effects.

3. *Atelectasis.* The patient was not sufficiently anesthetized, and when traction was made on the peritoneum she suddenly gasped, aspirating a plug of mucus. This was removed with the bronchoscope, and the patient recovered.

Deaths There were no deaths in this series attributable to the anesthetic. One patient, a colored boy in a moribund condition, suffering from extreme subcutaneous emphysema from a stab wound of chest, died at the very beginning of an anesthesia after having received less than 0.3 gram of the drug. The operating surgeon stated that he considered the death due to a sudden mediastinal shift and not to the anesthetic.

CONTRAINDICATIONS

We feel that, as a rule, a patient who can take any other anesthetic can take pentothal. Jaundiced patients and patients with liver damage have shown no ill effects from its use. We make an exception in patients with extensive chest operations, however, as we think gas-oxygen anesthesia under pressure is more advantageous. In patients in whom there is a possibility of any postnasal discharge, fluid or blood, passing into the larynx, trachea, or bronchi, either a throat pack around the airway or an intratracheal catheter with balloon should be used to prevent the discharge from entering this area; for the cough reflex is practically abolished in patients anesthetized with this drug. Likewise patients with bronchiectasis or pulmonary tuberculosis with cavitation should not be given this anesthetic.

SUMMARY

1. Eleven hundred and thirty-nine cases of pentothal sodium-oxygen anesthesia given over a period of fifteen months are reported.

2. Over 80 per cent of these cases

were major surgical procedures; 15 per cent were fair or poor risks, and 15 per cent were past the age of 50.

3. Pentothal sodium should be given only by an anesthetist who has been trained in its use, and oxygen should be given to combat the anoxemia that results from the depression of respiration.

4. Atropine should be given, preferably one hour before operation.

5. No deaths occurred in this series attributable to the anesthetic.

6. The results were satisfactory in 100 per cent of the cases from the patient's standpoint, and more than 99 per cent saitsfactory from the anesthetist's and surgeon's standpoint.

7. A method by which one anesthetist unassisted can give the drug, and also administer oxygen, is described.

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Personal communication with author.

478 Peachtree St., N. E.
Atlanta, Ga.

THE PHYSIOLOGY OF RESPIRATION

HANS O. HATERIUS, A.B., M.D., Ph.D.,

Associate Professor of Physiology, Wayne University College of Medicine, Detroit, Michigan

Read at the joint meeting of the anesthetists of Illinois, Indiana and Michigan, with the Tri-State Hospital Assembly, held in Chicago, Ill., May 1 and 2, 1940.

Recent progress in our knowledge of underlying factors concerned in the mechanism of respiration serves to emphasize certain points of eminent practical importance, of which the following is a brief summary.

RESPIRATORY CENTER

This center, it seems probable, consists of a functional aggregation of motor nerve cells situated in the *formatio reticularis* of the medulla but lacking organization as discrete nuclei. The very lack of a closely knit segregation allows for a catholicity of interest, so to speak, and the "center," rather than serving as a definite tract for mediation of circumscribed impulses, forms instead a clearing house and final common path for a variety of impulses of varied destination but with integrated function. Through its juxtaposition to

cardiovascular and vasomotor centers a high degree of coordinated responses is made possible.

The cells of the center respond to two types of stimuli: (1) reflex, and (2) chemical, either acting directly (e.g., carbon dioxide) or via reflex routes (e.g., oxygen lack). As for direct stimulation, it seems generally agreed that increase in intracellular acidity leads to increased activity; decreased acidity, on the contrary, appears to depress. Since carbon dioxide has the property of extremely rapid diffusion, it possesses the virtue of being an especially potent stimulant to increased activity of the respiratory motor neurons. It is to be recalled, however, that biologically carbon dioxide acts as a cellular depressant, or a narcotic, on living cells in general. It follows, then, that the respiratory motor cells must possess under normal conditions a unique and highly specialized property; that is to say, they differ biologically from other cells in their capacity of response to the influence of carbon dioxide. The term *normal* is to be emphasized, however, for when damaged, as by anoxia, trauma, narcosis, or toxic agents, these cells promptly revert to type, as it were, and carbon dioxide then acts in its conventional manner, as a depressant. This biological generalization is of paramount importance in any consideration of carbon dioxide in relation to respiration, and it can easily be seen why carbon dioxide therapy may be contraindicated under certain conditions of respiratory depression. Reference will be made later to the specific depression induced by preoperative medication.

Oxygen lack does not stimulate the normal respiratory center, however, but acts rather as a depressant, as it does to nerve cells in general. We know, however, that anoxemia can serve to stimulate breathing. How, then, does it act? Its action must obviously be indirect and, as it pertains here, is mediated reflexly; not only that, but by a pattern of such strength as to overcome ordinarily the central depression exercised by oxygen lack directly. Associated with this reflex mechanism are specialized receptors in the carotids and in the aorta. Before considering them, however, certain other reflex mechanisms merit attention.

REFLEX MECHANISMS IN RESPIRATION

(1) *Afferent impulses in general.* These, if sufficiently powerful, may affect respiration markedly. This is notably true of painful afferent stimuli, the practical significance of which is realized in conditions of extreme pain where the sudden application of anesthesia may produce respiratory failure and sometimes death. Conditions of traumatic shock, for example, when associated with loss of blood and concomitant fall in blood pressure, may induce anoxemic depression of respiration. Here the center may be depressed to the point where the painful afferent impulses alone are serving to maintain respiratory activity. Sudden elimination of the painful stimuli, by divorcing the center from its sole remaining driving force, obviously is likely to lead to respiratory failure, sudden and complete, unless adequate measures have been instituted to restore the failing circulation.

(2) *Trigeminal-vagal reflexes.* Similarly, sudden application of irritant vapors (e. g., ether) often may block respiration and cause embarrassing cardiac slowing, even in the individual with normal centers, through operation of a reflex pattern comprised of trigeminal and vagal pathways. Sensory endings of the trigeminus innervating the mucosa in the regions about the pharyngeal entrance convey impulses

set up by the noxious stimulus; these, in the medulla, are promptly translated and relayed over spinal and vagal pathways to involve respectively, respiratory depression and cardiac inhibition. This is a deep seated and primitive protective mechanism which often may be difficult to overcome.

(3) *Lung reflexes* (Hering-Breuer reflexes). These arise from vagal afferent receptors in the alveolar ducts and consist of two types, both of which affect the inspiratory phase of breathing. One set, responding to lung distention, inhibits further inspiration. The other, responding to lung deflation, serves to excite inspiration, and between them a nice balance between inspiration and expiration is maintained; they serve, in short, as "check valves" to respiratory amplitude and, under certain conditions, to rate as well. In the use of inhalation anesthetics, more especially those of an irritant nature, the importance of these reflexes becomes apparent. Even when the cough reflex has been blocked, one of its fundamental components, that of forced expiratory contractions, still tends to persist and to dominate the pattern of respiration under ether—a pattern which resolves itself into a somewhat exaggerated type of breathing as the lungs empty rapidly and completely, with increased rate and depth of respiration. This type of respiration serves as a useful guide; the important point being the fact of its maintenance by reflex influences. A sudden depression of respiration at this stage constitutes a well-known danger sign which, interpreted physiologically, means a depth of anesthesia sufficient to paralyze the expiratory components of the respiratory center. This in turn means that, if it be unchecked, paralysis of the inspiratory components will follow very quickly.

In the use of non-irritant vapors (e.g., cyclopropane) and of non-volatile agents (e. g., barbiturates) these reflexes are of little value, since this expiratory exaggeration is greatly reduced or is absent altogether. In fact the degree of respiratory depression may be out of all proportion to the depth of anesthesia obtained. This depression, with its resultant anoxia, deserves critical consideration with particular reference to the practice of preoperative medication (McClure *et al.*) and will be considered briefly later.

(4) *Carotid and aortic reflexes.* Certain changes in the chemical composition of the blood until a few years ago believed to act directly upon the respiratory center, are now known to exert their effects reflexly, particularly with respect to the bodily defense mechanisms against anoxemia. The chemoceptors involved lie in the carotid body and in the walls of the aorta, and possess the capacity of being able to translate chemical stimuli into afferent nerve impulses to the respiratory center. Oxygen lack, particularly, appears to be a potent stimulus to these receptors, and the increased rate of breathing occasioned by oxygen lack is generally attributed to mediation by nervous pathways—largely glossopharyngeal afferent fibers, although other nerve fibers undoubtedly participate. Now, these reflex mechanisms are more resistant to narcotics, toxic substances, and excessive carbon dioxide than are other tissues (including the respiratory center). Consequently, they may continue to operate effectively—under the drive of a continued anoxemia—even after the center itself has lost the capacity to respond to the direct effects of carbon dioxide. This being so, sudden alleviation of the anoxemia may often result in cessation of breathing, a failure which oxygen therapy seems incapable, by itself, of alleviating.

ANOXIA

Tissue asphyxia is, of course, the *bête noire* of the anesthetist, as well as of the experimentalist, and the degrees and types of anoxia which serve as precursors have been listed and classified according to their cause and consequences. Lack of oxygen will naturally be correlated more or less directly with the degree of respiratory depression and, because of this, factors tending to induce the latter become matters of lively interest. It has been pointed out that non-volatile anesthetics in general tend to cause such depression, and, since the depression is greatly exaggerated in proportion to the degree of narcosis attained, the administration of actual anesthesia doses may produce serious damage. Such depression, with resultant anoxia, merits especial attention in view of the widespread use of preoperative sedation.

Such medication, especially with the barbiturates, can scarcely be defended on rational grounds from the strictly physiological point of view. With the almost invariable depression of respiratory function, one encounters an initial depression of oxygen tension at the onset of complete anesthesia which may often prove extremely deleterious. Moreover, barbiturates, localized in their action rather more in the diencephalon than in the cerebral hemispheres, produce, in addition to respiratory depression, a fall in body temperature and an early circulatory depression—an unphysiological triad, to say the least. Even in moderate dosage and especially when given intravenously, degrees of anoxia develop ranging from slight to severe in degree, particularly anoxia of the histotoxic type, which proves least amenable to treatment. McClure and his associates offer examples of such anoxia based upon brain metabolism studies, which reveal that tissue slices may display a reduction in oxygen consumption of 16 to 28 per cent, and brain tissue *in vivo* a reduction of 28 per cent, with a fall in carbon dioxide production of 80 per cent — all as a sequel to previous barbiturate administration. Similarly, avertin (tribromethanol) in their hands depressed respiration and circulation, producing anoxia and stagnant anoxia, a condition amenable only to early control of the fall in blood pressure. Spinal anesthesia proved more promising, provided that the initial circulatory depression and vasodilatation were held in check, *and provided that* preoperative medication was avoided. With inhalation mixtures containing a reasonable level of oxygen (e. g., ethylene, cyclopropane) anoxia occurred *only* if preoperative medication was employed. Inhalation anesthetics whose efficacy is predicated upon reduction of oxygen below maintenance levels (6 per cent)—as, for example, nitrous oxide, are of necessity limited in their applicability, since the duration of their action must be definitely limited.

Finally, from what has been said with respect to responses of the *normal* and the *depressed* respiratory center to carbon dioxide, one has a rational basis of explanation for the divergence of opinion regarding the efficacy of this gas as a theurapeutic agent in overcoming respiratory failure or in correcting a weakened center. For example, two schools of thought have evolved, diametrically opposed as to viewpoint, concerning neonatal asphyxia and resuscitation. This evolution probably has as its basis the fact that, with the use of barbiturate sedation, which practically abolishes normal respiratory responses to carbon dioxide, use of the latter would scarcely be expected to be effective (Henderson, 1940). The school which champions its use, on the other

hand, proves to be the one which avoids the use of barbiturates either as a sedative or as an anesthetic.

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ANESTHESIA IN MAJOR UROLOGICAL SURGERY; POSTANESTHETIC COMPLICATIONS; 500 CASES

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and

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Read at the ninth annual meeting of the Pennsylvania Association of Nurse Anesthetists, held in Pittsburgh, Pa., May 8-10, 1940.

We are presenting our results with five hundred consecutive major urological cases under the care of one surgeon, one operating team and one anesthetist. Dr. E. J. McCague, our urologist and surgeon, has had a wide experience, has the confidence of his patients, and employs consultants to prepare his patients and aid him in their after care. He often sends a patient home to get stronger or to gain weight or to wait until an infection subsides. In a few instances, where the mental attitude of the patient has been bad or some physical finding doubtful, the patient has been returned to his room from the operating room table. He has always cooperated with the anesthetist. We often see the patient together, beforehand, and the results are frequently discussed. In his early operations, years ago, ether was used exclusively, but he now sees a place for each anesthetic agent and the results, I believe, will bear this out. One seldom has a group of such fixed factors—one

surgeon, a well-run and highly organized urological department, one operating room team, one anesthetist.

The five hundred anesthetics were given during 1938, 1939, and a few in 1940. The cases may be divided as follows:

Kidney operations	126
Bladder operations	130
Prostatectomy	178
Penis and scrotal operations	40
Operations on ureters	24
Adrenal tumor operations	2
Total	500

The above were so-called major cases, although hundreds of anesthesias were given for minor operations, inspections, cystoscopic examinations, et cetera, in the urological department. These were not reviewed. Before presenting the statistical data that took at least two hundred hours to gather, we must thank Dr. McCague and our anesthesia students who did so much to make this presentation possible. For this paper five hundred hospital charts were reviewed. The records kept in the anesthesia department were found to be accurate.

As you know, some member of the department sees the patient for five days after operation, and in the event there is any complication the surgeon is consulted. Autopsy findings in some cases showed that the cause of death had no relationship to the anesthesia although reported so at first.

In the series of one hundred and twenty-six kidney cases there was a surgical mortality of 5.7 per cent. This is low considering the fact that a great number of these patients were given their only chance to live.

TABLE I

KIDNEY CASES

Anesthetic	Nephrectomy	Nephrotomy	Exploration Kidney	Kidney Stones	Kidney Inc. & Dr.	Nephropexy; Hydronephrosis	TOTALS
Nitrous oxide	1	2		1	2		6
Nitrous oxide and ether	10	1	3	3	6	3	26
Cyclopropane	1	1		2	5		9
Cyclopropane and ether	14	6	2	5	3	5	35
Pentothal sodium	2	1	1	1			5
Spinal	10	1	5	11	1	1	29
Spinal and nitrous oxide	4		1	1			6
Spinal and cyclopropane	4						4
Avertin and nitrous oxide	1	1		1			3
Avertin and cyclopropane				1			1
Ether	1		1				2
Totals	48	13	13	26	17	9	126

TABLE II

There were no surgical deaths and no anesthetic complications in the following forty-eight cases.

NEPHRECTOMY OPERATIONS

	Cases	Recoveries	Average stay in hospital—days	Anesthetic complications	Average age
Nitrous oxide	1	1	12	None	11
Nitrous oxide and ether	10	10	30	None	40
Cyclopropane	1	1	19	None	13
Cyclopropane and ether	14	14	32	None*	38
Pentothal sodium	2	2	25	None	40
Spinal	10	10	23	None	39
Spinal and nitrous oxide	4	4	28	None	39
Spinal and cyclopropane	4	4	25	None	48
Avertin and nitrous oxide	1	1	12	None	24
Ether	1	1	15	None	2
Totals	48	48	22	0	30

*One patient had pneumonitis but had extensive secondaries in lung. He was in the hospital seventy-eight days.

In the nephrotomy group we had one patient following nitrous oxide-ether with a cough which lasted five days and did not influence recovery in any way. One patient died five days after operation; at the time her death was reported to be from pneumonia. This was a woman aged 67, and autopsy revealed that death was due to sepsis and multiple secondary carcinomatous lesions. This case shows the value of an autopsy. We have tried to emphasize to our student anesthetists to urge an autopsy in every death. It has been a great source of comfort to us in a few tragedies.

TABLE III

NEPHROTOMY OPERATIONS

(Usually a Risk 3 Operation)

	Cases	Recoveries	Average stay in hospital—days	Anesthetic complications	Average age
Nitrous oxide	2	1	49	None	53
Nitrous oxide and ether	1	1	35	Cough 5 days	52
Cyclopropane	1	1	40	None	52
Cyclopropane and ether	6	5	23	None	39
Pentothal Sodium	1	1	72	None	53
Spinal	1	1	30	None	38
Avertin and Nitrous oxide	1	1	34	None	20
Totals	13	11	40	1	43

TABLE IV

*EXPLORATION OF KIDNEY**

	Cases	Recoveries	Average stay in hospital—days	Anesthetic complications	Average age
Nitrous oxide and ether	3	2	58	None	33
Cyclopropane and ether	2	2	16	None	32
Pentothal sodium	1	1	13	None	35
Spinal	5	5	24	None	52
Spinal and nitrous oxide	1	1	31	None	54
Ether	1	1	28	None	8
Totals	13	12	22	0	36

*Question of a tumor—done on basis of clinical picture plus doubtful laboratory findings.

In the kidney stone cases there were three complications in twenty-six cases; one case of pneumonia following nitrous oxide-oxygen anesthesia with recovery from the pneumonia but a prolonged hospital stay—fifty-eight days. We had one case of atelectasis which followed spinal analgesia but no special treatment was required. The patient's recovery was as rapid as the average—twenty-three days. The third patient had a cough before operation and this was troublesome after operation. Spinal analgesia was used but the patient had a prolonged stay in the hospital—forty-two days.

TABLE V

NEPHROLITHOTOMY

	Cases	Recoveries	Average stay in hospital—days	Anesthetic complications	Average age
Nitrous oxide	1	1	58	1 pneumonia	47
Nitrous oxide and ether	3	3	25	None	41
Cyclopropane	2	2	24	None	34
Cyclopropane and ether	5	5	24	None	53
Pentothal sodium	1	1	14	None	34
Spinal	11	11	24	*	41
Avertin and nitrous oxide	1	1	20	None	41
Avertin and cyclopropane	1	1	28	None	55
Spinal and nitrous oxide	1	1	27	None	58
Totals	26	26	25	3	45

* One cough 5 days; one atelectasis

TABLE VI

Abscesses, infected hydronephrosis, et cetera, come under the title of incision and drainage of kidney.

INCISION AND DRAINAGE OF KIDNEY

	Cases	Recoveries	Average stay in hospital—days	Anesthetic complications	Average age
Nitrous oxide	2	2	12	None	53
Nitrous oxide and ether	6	6	36	None	30
Cyclopropane	5	2	16	None	42
Cyclopropane and ether	3	3	11	None	38
Spinal	1	1	15	None	48
Totals	17	14	18	0	42

Other kidney operations include operations to suspend the kidney, as for ptosis, operations for obliterant vessels, et cetera.

TABLE VII

OTHER KIDNEY OPERATIONS

	Cases	Recoveries	Average stay in hospital—days	Anesthetic complications	Average age
Nitrous oxide and ether	3	3	17	None	31
Cyclopropane and ether	5	5	24	None	37
Spinal	1	1	14	None	45
Totals	9	9	18	0	37

TABLE VIII

ADRENAL TUMORS, BLADDER, AND URETERAL OPERATIONS

	Adrenal tumors	Ureteral stones	Cystotomy	Fulguration of bladder	TOTALS
Nitrous oxide		2	9	12	23
Nitrous oxide and ether		5	40	18	63
Cyclopropane			13		13
Cyclopropane and ether	1	4	9		14
Pentothal sodium		1	13	8	22
Spinal	1	12	2	3	18
Avertin and nitrous oxide				1	1
Ether				2	2
Totals	2	24	86	44	156

TABLE IX

OPERATIONS FOR ADRENAL TUMORS

	Cases	Recoveries	Average stay in hospital—days	Anesthetic complications	Average age
Cyclopropane and ether	1	1	22	None	56
Spinal*	1	0	50	None	21
Totals	2	1	36	0	38

*The case under spinal analgesia appeared to be successful at the time of operation. However, metastasis formed early and the patient died fifty days after operation.

TABLE X

OPERATION FOR URETERAL STONES

	Cases	Recoveries	Average stay in hospital—days	Anesthetic complications	Average age
Nitrous oxide	2	2	25	None	6
Nitrous oxide and ether	5	4	33	One-coughing	39
Cyclopropane and ether	4	4	31	None	35
Pentothal sodium	1	1	28	None	52
Spinal	12	12	20	*	40
Totals	24	23	27	3	35

* One coughing; one atelectasis

There was one surgical death in twenty-four operations for ureteral stones. Two patients had cough for several days—one case following nitrous oxide-ether, one following spinal. Their convalescence was uninfluenced. There was a case of partial atelectasis following spinal analgesia but no special treatment was required.

TABLE XI

CYSTOTOMY

	Cases	Recoveries	Average stay in hospital—days	Anesthetic complications	Average age
Nitrous oxide	9	7	40	None	59
Nitrous oxide and ether	40	36	38	*	58
Cyclopropane	13	11	47	**	60
Cyclopropane and ether	9	8	34	***	60
Pentothal sodium	13	12	31	2 coughing	49
Spinal	2	2	21	None	54
Totals	86	76	35	8	57

* 2 coughing; 1 pulmonary edema.

** 1 coughing; 1 congestion

*** 1 terminal pneumonia

Cystotomy is done, as you know, for patients with urinary retention, some with uremia, some with traumatic lesions such as fractured pelvis—often the patient is gravely ill. The average age for this group is fifty-seven years. There were eight anesthetic complications. Four of these were cough, two after nitrous oxide, two after pentothal sodium; none influenced the end result. One man, aged eighty, died of bronchopneumonia seventeen days after operation, although his chest was clear for over a week after operation. This followed cyclopropane-oxygen and ⅛ ounce of ether. Another patient died nine days after operation, with pulmonary edema; x-rays of the chest were negative. Nitrous oxide-ether was used and the cystotomy was done for a ruptured bladder. The other complication followed a cystotomy for carcinoma of the prostate in a man aged seventy years. The patient had rales from congestive failure which lasted for fourteen days and he left the hospital in good condition thirty-two days after admission.

TABLE XII

BLADDER FULGURATION

	Cases	Recoveries	Average stay in hospital—days	Anesthetic complications	Average age
Nitrous oxide	12	12	4	1 coughing	56
Nitrous oxide and ether	18	18	12	None	53
Pentothal sodium	8	8	10	None	50
Spinal	3	3	10	None	45
Avertin and nitrous oxide	1	1	13	None	66
Ether	2	2	7	None	7
Totals	44	44	9	1	46

Bladder fulguration is done for tumors of the bladder. Most tumors of the bladder are carcinomatous. We had eight cases where the tumor could be destroyed without opening the bladder. The patients were in the hospital for only a day or two and we found this reduced the average hospital stay for this group to nine days. Only one patient had an anesthetic complication and this was cough following nitrous oxide and did not influence the end result.

TABLE XIII

PROSTATECTOMY

	Suprapubic	Transurethral	Totals
Nitrous oxide	9	5	14
Nitrous oxide and ether	30	11	41
Cyclopropane	12		12
Cyclopropane and ether	18		18
Pentothal sodium	7	5	12
Spinal	12	66	78
Avertin and nitrous oxide	1	2	3
Totals	89	89	178

Strangely, in this group we had exactly the same number of suprapubic prostatectomies as transurethral prostatectomies. The average age of the patient in the former group was sixty-five years and in the latter fifty-nine years. Of the suprapubic cases, 86 per cent. were done under the gases while 76 per cent. of the transurethral cases were done under low spinal analgesia. We felt we could use spinocaine and often get only "saddle anesthesia."

There were five anesthetic complications in the suprapubic group and two in the transurethral group. In the transurethral group one patient seventy-two years old following nitrous oxide-oxygen anesthesia ran a normal temperature for three days postoperatively, then had a chill followed by a temperature of 102.6, and died of pneumonia and uremia nine days after operation. The other patient recovered after a spinal anesthesia for transurethral resection of the prostate but had a prolonged stay of three months and twelve days due to pulmonary infection.

In the suprapubic group there were five complications. In two of these one can hardly place the blame on the anesthesia. One patient ten days after operation developed pain in the chest and had blood-tinged sputum. He recovered but was in the hospital sixty-two days. The other had a coronary attack with some question of an infarct of the lung, which developed on the seventh day and made his hospital stay thirty-eight days. In both cases cyclopropane and ether was given. In one of the three remaining complications the patient, aged seventy-four, had a laryngotracheitis and hiccoughs which played a part in his fifty-two day postoperative stay. The anesthetic was straight cyclopropane. Following pentothal sodium anesthesia one patient coughed for several days but this did not influence the result or his hospital stay. The last, a man aged seventy-five, after second-stage

prostatectomy developed rales in the chest. He died the third postoperative day and autopsy showed some consolidation of the lung and metastasis of the tumor to other parts of the body.

TABLE XIV

SUPRAPUBIC PROSTATECTOMY

	Cases	Recoveries	Average stay in hospital—days	Anesthetic complications	Average age
Nitrous oxide	9	9	35	None	68
Nitrous oxide and ether	30	30	31	None	65
Cyclopropane	12	12	31	*	62
Cyclopropane and ether	18	17	40	**	66
Pentothal sodium	7	6	33	***	64
Spinal	12	9	26	None	69
Avertin and nitrous oxide	1	1	23	None	62
Totals	89	84	31	5	65

* One laryngotracheitis
** One lung infarct; one moist lung
*** One bronchopneumonia; one coughing

TABLE XV

TRANSURETHRAL PROSTATECTOMY

	Cases	Recoveries	Average stay in hospital—days	Anesthetic complications	Average age
Nitrous oxide	5	4	27	*	53
Nitrous oxide and ether	11	11	17	None	60
Pentothal sodium	5	4	25	None	58
Spinal	66	64	21	**	62
Spinal and nitrous oxide	2	2	21	None	61
Totals	89	85	22	2	59

* one pneumonia
** one acute respiratory infection

TABLE XVI

OTHER UROLOGICAL OPERATIONS

	Hydrocele and varicocele	Vas. op.	Orchid-ectomy	Retrograde	Amputation of penis	Epididy-mectomy	Totals
Nitrous oxide		2	1	1	1		5
Nitrous oxide and ether	1		6	1	3	2	13
Cyclopropane		1	2		4		7
Cyclopropane and ether	3						3
Pentothal sodium	3		2		2	1	8
Spinal	1	1			1		3
Avertin and nitrous oxide	1						1
Totals	9	4	11	2	11	3	40

In the forty remaining cases we had one patient who had cough for several days after nitrous oxide-ether anesthesia for orchidectomy. Dr. McCague did not feel that this retarded or influenced the end result.

TABLE XVII

OPERATIONS FOR VARICOCELE AND HYDROCELE

	Cases	Recoveries	Average stay in hos-pital—days	Anesthetic complica-tions	Average age
Nitrous oxide and ether	1	1	10	None	24
Cyclopropane and ether	3	3	6	None	32
Pentothal sodium	3	3	19	None	44
Spinal	1	1	5	None	9
Avertin and nitrous oxide	1	1	5	None	9
Totals	9	9	11	0	27

TABLE XVIII

RETROGRADE OPERATIONS

	Cases	Recoveries	Average stay in hos-pital—days	Anesthetic complica-tions	Average age
Nitrous oxide	1	1	228	None	17
Nitrous oxide and ether	1	1	72	None	54
Totals	2	2	150	0	35

EPIDIDYMECTOMY

	Cases	Recoveries	Average stay in hospital—days	Anesthetic complications	Average age
Nitrous oxide and ether	2	2	8	None	56
Pentothal sodium	1	1	6	None	24
Totals	3	3	7	0	40

OPERATIONS ON VAS DEFERENS

	Cases	Recoveries	Average stay in hospital—days	Anesthetic complications	Average age
Nitrous oxide	2	2	5	None	53
Cyclopropane	1	1	8	None	35
Spinal	1	1	6	None	55
Totals	4	4	6	0	47

TABLE XIX

OPERATIONS ON PENIS AND SCROTUM

	Cases	Recoveries	Average stay in hospital—days	Anesthetic complications	Average age
Nitrous oxide	1	1	6	None	64
Nitrous oxide and ether	3	3	7	None	54
Cyclopropane	4	4	14	None	52
Pentothal sodium	2	2	25	None	48
Spinal	1	1	20	None	49
Totals	11	11	14	0	53

ORCHIDECTOMY

	Cases	Recoveries	Average stay in hospital—days	Anesthetic complications	Average age
Nitrous oxide	1	1	24	None	43
Nitrous oxide and ether	6	6	16	1 coughing	54
Cyclopropane	2	2	76	None	59
Pentothal sodium	2	2	7	None	51
Totals	11	11	31	1	52

SUMMARY

There was only one group where we attempted to use a fixed procedure for anesthesia—that is, in the transurethral group. Here we took these frail individuals, turned them on their side, injected the spinal needle, lowered the head of the table and injected the small dose of spinocaine. We had a number of favorable comments upon this procedure from visiting urologists. Otherwise we tried to use the anesthetic best fitted to the patient. Naturally such factors as age, weight, physical status, surgical risk, temperament of the individual, length of operation, et cetera, were considered.

SUMMARY OF ANESTHETICS USED

	Kidney	Adrenal Bladder Ureter	Prostate	Others	Totals
Nitrous oxide	6	23	14	5	48
Nitrous oxide and ether	26	63	41	13	143
Cyclopropane	9	13	12	7	41
Cyclopropane and ether	35	14	18	3	70
Pentothal sodium	5	22	12	8	47
Spinal	29	18	78	3	128
Spinal and nitrous oxide	6				6
Spinal and cyclopropane	4				4
Avertin and nitrous oxide	3	1	3	1	8
Avertin and cyclopropane	1				1
Ether	2	2			4
Totals	126	156	178	40	
				Grand Total	500

ANESTHETIC COMPLICATIONS

	Neph-rotomy	Nephrolith-otomy	Ureter stones	Cystotomy	Bladder fulguration	Suprapubic	Trans-urethral	Orchid-ectomy	TOTALS
Nitrous oxide		1			1		1		3
Nitrous oxide and ether	1		1	3				1	6
Cyclopropane				2		1			3
Cyclopropane and ether				1		2			3
Pentothal sodium				2		2			4
Spinal		2	2				1		6
Totals	1	3	3	8	2	5	2	1	24

ANALYSIS OF TWENTY-FOUR COMPLICATIONS FOLLOWING FIVE HUNDRED UROLOGICAL ANESTHESIAS

Cough	12	Bronchopneumonia	1
Terminal pneumonia	2	Pneumonia (recovery)	1
Atelectasis	2	Laryngotracheitis	1
Pulmonary edema	1	Acute respiratory infection	1
Passive congestion	2	Lung infarct	1

As we look back on the records here presented we note that 50 per cent of the complications reported were cough. Of this group over 50 per cent had the cough beforehand. We feel rather proud of this record.

WANTED—A NURSE ANESTHETIST

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Executive Director, Nurse Placement Service, Chicago, Illinois

FOREWORD

In contemplating your selection of subjects and speakers on this program, one is deeply impressed with your apparent eagerness to improve and perfect your knowledge of anesthesiology. That you have arranged for one speaker who will contribute nothing directly toward your specialized, scientific, technical fund of information or skill is, I assume, somewhat a departure from the usual, but proves your awareness of problems of a professional nature in the solution of which you feel that a specialist in another science, that of placement and vocational guidance, may assist. But I am here not only to give but to get, to the end that it is hoped that this, my first appearance before any group of anesthetists, may lead to a further knitting together of our common objectives of *better service* in your field and in mine. Preparation, experience, selection, public relations, personal adjustments, job analyses and work conditions are factors so vitally concerned in the placement of nurse anesthetists as to be considered basic in the proper administration of anesthesia and prevention of anesthesia accidents and fatalities.

Read at the joint meeting of the anesthetists of Illinois, Indiana and Michigan, held in conjunction with the Tri-State Hospital Assembly, held in Chicago, Ill., May 1 and 2, 1940.

They involve the happiness and security of the worker, the proper functioning of the hospital, the success of the surgeon and most of all the welfare of the patient.

A frank statement of conditions of employment of nurse anesthetists as seen from Nurse Placement Service, the watch tower and professionally sponsored placement service which I represent, is a laying of the cards on the table in which your aid is most heartily invited. This Service already enjoys the generous and gracious help of your executive secretary's informal advisory and consultation service whenever we request it (which is often indeed). We delve deeply into your literature and read the splendid reports of your committees. However, there is also seen a need that every member of your organization share in the conscious conviction that organized effort in the placement of nurse anesthetists is a very important avenue toward the goals you have set up in the

splendid six-point program of objectives as stated in the Certificate of Incorporation of the American Association of Nurse Anesthetists, upon which I most heartily congratulate and commend you.

A STATEMENT OF THE PROBLEM

The scope of this paper will not permit enlargement of any but a few of the most conspicuous aspects of the problems of nurse anesthetist placement, which are in some respects similar to those of placement in any phase of nursing, but enhanced by the fact that you are engaged in a dual or twofold field of service. A listing of some of the major points will strike a responsive note, I feel sure, in the minds of some individual nurse anesthetists among you who have personally experienced (and often perhaps suffered because of) some of the situations and conditions that will be indicated or at least implied. I feel equally sure that employers of nurse anesthetists who may be present will recognize and concur in some points at which they have met near-defeat. No effort has been made to record the items of this *survey* (to borrow a word from Carlyle) in the order of their importance.

A study of our records reveals that:

1. The supply of able, well qualified nurse anesthetists is not adequate to meet the demand.

2. There are, on the opposite hand, many nurse anesthetists who are not readily placeable.

3. The turnover in this field of service is large in comparison with many other types of hospital positions, and the average length of service is unusually short by comparison with that in many of the fields of nursing.

4. Salaries offered are not on the whole equivalent to the nurse anesthetists' stated minimum rates, and considering the fact that an anesthetist's active career can cover only about two decades, and also considering the tremendous responsibility they carry and the strain to which they are subjected, and the long and continuous hours of work as well as hours on call. To make such adjustments often gives the worker a bad start in a new position.

5. Standards of qualifications demanded by employers and through the advancement of anesthesiology and the closely related science of surgery are rather rapidly advancing, yet some nurse anesthetists are not seen to be taking steps to keep themselves up-to-date through the means at hand.

6. Supplying the hospitals in smaller cities and rural communities with satisfactory and stable anesthesia service is rather a grave problem and has its counterpart only in the supplying of satisfactory and stable general duty nursing service for such hospitals.

7. The combination of duties in the smaller or outlying institutions expected of a nurse anesthetist has no counterpart in nursing per se or in any other vocation, as far as we can discover.

8. Nurse anesthetists very frequently specify an interest in working for one surgeon only; these types of positions are conspicuously lacking in number.

9. Employers are often very discriminating in their statements of special qualifications as to age (mature and experienced but not past forty or forty-five); marital status (must live in); total abstinence from alcoholic liquor, and smoking on or off duty.

10. Positions for nurse anesthe-

tists very frequently demand immediate filling and although the average leeway of time for negotiations is limited, a personal interview in advance of appointment is often required.

11. Nurse anesthetists are often seen to set themselves and their art apart because of their specialized nature, with a reputed lack of appreciation for the interrelation of their service with the institution and its personnel as a whole, according to reports from employers.

12. Nurse anesthetists, either justly or unjustly, or because of the very intensity induced by the character of their work, show a greater sensitivity to what they consider unfair administration in an institution so far as they themselves, and their positions, are concerned.

I have already consumed a considerable part of my time in this over-all view. Each of the problems mentioned could in itself become the title of a dissertation. Many of them are as ininterwoven as cause and effect, or contribute to the well-known vicious circle.

ANESTHESIA SERVICE IN THE SMALL HOSPITAL

One problem which thrusts itself forward, is that of the combination job that is so closely allied to the problem of anesthesia service for the small hospitals, which rarely have enough work in anesthesia per se to require a full time anesthetist. Yet these hospitals must have this specialized service available upon immediate demand at any hour of the day or night. The salary offered in these institutions is often thought not fully compensatory and increases are not often forthcoming. Our sympathetic interest is equally divided between the worker and the institution. Nurse anesthetists do not like these jobs, often taking them under protest when nothing else is available and consequently do not remain long in them. It is a problem for conference between leaders in your group and the small hospital administrators. Often the crux of the problem lies in the character and amount of the non-anesthesia duties required. As this paper is being written, positions for nurse anesthetists on our books include some requiring the following combinations:

No. 1—Nurse anesthetist to serve as scrub nurse—it is presumed but not stated when someone else is giving the anesthetic, yet her interest in anesthesia may well divide her attention.

No. 2—Nurse anesthetist combined with operating room supervision. How is this possible?

No. 3—Nurse anesthetist combined with obstetrical supervision.

No. 4—Nurse anesthetist to serve as Record Librarian — there are many positions of this type requiring additional specialized preparation.

No. 5—Nurse anesthetist to serve also as x-ray or laboratory technician or both, all three services requiring prolonged and expensive preparation, which means that with her fundamental nursing course, she must be a kind of a *four-dimension wonder.*

No. 6—Nurse anesthetist to serve as office assistant.

No. 7—Nurse anesthetist to relieve any place in the institution, calling for much versatility of ability and adaptability.

No. 8—Nurse anesthetist to do general duty.

Although I am a nurse and not an

anesthetist and you are both nurse and anesthetist in one, I am sure you agree that a combination of anesthesia service with any kind of supervision in any service or department of a hospital is impractical and unfair to either phase of work. Equally as hazardous and as vicious a practice is the combination with the lower level job of general duty, that is, staff nursing in the hospital, where in some instances we have known the nurse anesthetist to have been subject to the repeated practice of being called from the bedside of a patient for whom she had started a treatment, being rushed to the operating room with the patient awaiting her there, and with inadequate time to set up and examine her anesthetic equipment or become informed of all preoperative findings for the patient, nor does she have time to regain the emotional composure so necessary for careful work. On the other hand I think you may agree that the combination with record librarian or office assistant work may, under the right conditions of administration, not only be a compatible combination but may even serve to offer an anesthetist a safety valve from the strain of too steady and continuous a service as anesthetist. Such "other" work which may be consistent, may be welcomed by the average anesthetist not fairly busy at her specialty and would surely assist the hospital in meeting the demands on its possibly limited budget. It remains for your organization to outline and publicize the types of service that lend themselves satisfactorily to combination with anesthesia service, though in the final analysis much will depend on the individual worker and the management of her schedule by those in authority in the institution.

May it not be possible in these days of rapid transportation and during this more or less pioneer stage of standardization of anesthetists' service and education, for a group of several small hospitals in a given general locality to employ two nurse anesthetists with a schedule of regular days in each hospital, each anesthetist serving her turn on call for emergencies and as relief to the other for night calls, so that one might go to bed at least every other night knowing that she can probably stay there until morning, and also have regular off-duty periods for recreation when she may do as she pleases and go out to dinner, knowing that she can stay for dessert. Such a program has worked successfully in other lines of technical service in nursing and those services allied to nursing. Perhaps it has been tried and discarded on the basis of "too many bosses." That problem could be hurdled by part-time jobs for two nurse anesthetists in two or more institutions. You would be more familiar than your speaker with the obstacles, but to a professional placement service that has never received such a call its possibilities seem favorable and would certainly seem preferable to the present system of employing an anesthetist who is a jack-of-all-trades, which plan does not seem to work at all in the majority of situations.

THE ARGUMENT AGAINST PROFESSIONAL ISOLATION

The selection of the right nurse anesthetist for a given job is often complicated not only by the restrictive interests of these workers as to the locality and the type of job they will consider, but frequently because of the available workers' lack of knowledge or skill for the certain specific demands of the position as stated by the employer, which includes administration of a particular kind of anesthetic in which the candidate does not feel skilled. Keeping up to date is of course

necessary in all professions, and most of all in one that is emerging from an apprentice plan to a truly recognized professional status, as both nursing and anesthesiology are at this time. Keeping up to date and well rounded in one's specialty through refresher courses, observation of demonstrations and visiting other institutions, membership in organizations pledged to the development of the particular science, attending conventions, extensive reading—all seem within the realm of possibilities for every worker who has the proper interest. What many nurses and nurse anesthetists do not realize is that their profession cannot reach its highest level of performance and value if it assumes an attitude of isolation from allied interests. The very fact that nurse anesthetists' associations, both national and sectional, meet with other groups as you are doing in this convention, is a superb example of what each anesthetist may do in her individual hospital and community. Call it cooperation, call it public relations, call it by whatever name you please, the result for good to the individual and the specialized group will be assured. It is the best way to bring about through the medium of interpretation of a profession's needs the proper salary rates and working conditions, as well as standardization of preparation, and is the most hopeful plan for the satisfactory adjustment of these problems.

CONCLUSION

In the beginning of this paper it was indicated by your speaker that a professional placement service is a means of promoting and promulgating the things for which the American Association of Nurse Anesthetists stands. The start that has been made in this direction can be greatly augmented. It means that we, as placement specialists, and you as nurse anesthetists must know each other better and should exchange information more specifically. You are providing the brick for us to lay in the building of your structure through service. Our objective of service of a high order to the nurse is as great yet no greater in importance than our objective of service of a high order to the field. If it be possible in the future for your group to make certain studies you would find our files at the disposal of your organization. One study, for example, which should be greatly beneficial as a basis for reform would be an analysis of the hundreds of replies from nurse anesthetists when referred to positions, giving the reasons why they were or were not interested in the positions to which they were referred. Your organization has outlined a splendid educational minimum. You have raised your standards for membership. I hope you may sometime outline, as other national organizations have done, the minimum requirements for different types of anesthesia positions for placement services and employers to abide by, as well as job analyses as a basis for these requirements. If money were available to your group to provide more expert consultation service for your field of employment and guidance to the extent that our service is now aware that it could be used, much would be gained in the advancement of your case. Meanwhile it is a source of much comfort to the staff and board of Nurse Placement Service to see the strides your organization is making as pioneers on new frontiers, and to have the good fortune of our respective offices being in the same city, with your busy executive secretary so helpful in advising us as the letters and telegrams and personal calls and phone calls pour in to Nurse Placement Service from hamlet, town, and city—"Wanted—a Nurse Anesthetist!"

ANESTHETIC COMPLICATIONS, DEATHS AND THEIR PREVENTION

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Read at the ninth annual meeting of the Pennsylvania Association of Nurse Anesthetists, held in Pittsburgh, Pa., May 8-10, 1940.

I agree with Clement[1] that we may classify anesthetic complications and deaths into the immediate and remote types. The immediate complications and deaths are those that occur on the operating table. These are the real tragedies of medicine. They appear suddenly but not without some warning that may or may not be heeded by the anesthetist.

RESPIRATORY FAILURE

Respiratory failure may be due to mechanical or non-mechanical factors.

Mechanical Factors:

1) Mechanical obstruction from malposition of the head and jaw.
2) Obstruction by base of the tongue or by adenoids.
3) Edema of the larynx.
4) Growths along the respiratory tract.
5) Extreme Trendelenburg position, thus throwing greatly increased load on the diaphragm.
6) Aspiration of debris. Various kinds of debris or foreign substances that may be aspirated into the trachea, bronchi and lungs with serious or fatal results such as:
   a) Vomitus
   b) Mucus
   c) Teeth or particles from broken teeth
   d) Blood from surgery of the nose and mouth
   e) Sponges
   f) Instruments
   g) Pus from pharyngeal or peritonsillar abscess
   h) Bronchiectatic debris in lung surgery.

Non-Mechanical Factors:[2]

1. *Central respiratory failure.*
   a) Overdose of preanesthetic medication. This is more common in children.
   b) Overdose of anesthetic agent; most common with intravenous anesthesia.
   c) Increased intracranial pressure; common in brain tumors.

2. *Accidents due to peripheral respiratory interference.*
   a) Interference with the normal balance of oxygen and carbon dioxide in the pulmonary alveoli.
   b) Interference with the proper diffusion of gases through the alveolar membrane due to physical impairment of that membrane.
   c) Interference with the oxygen carrying capacity of the blood.
   d) Interference with the normal action of the oxidation ferment in the tissue cells.

CIRCULATORY ACCIDENTS

The circulatory system does not escape the influence of the anesthetic.

All of the anesthetic agents exert a direct and indirect effect upon the heart and the circulatory system. There is a direct action upon the cardiac muscles; and an indirect action upon the intrinsic and extrinsic nerves of the heart. Similar action is present upon the bulbar and retrobulbar centers that regulate the arterial pressure.

Accidents may occur due to a change in the blood pressure. This change may be attributed to anoxia. That is to say—the heart may be so depressed by oxygen deficiency that it will fail to respond to the stimulus present in the body at the time.

Accidents Due to Increased Blood Pressure

1) *Rapid asphyxia.* Asphyxia will cause a rise in the blood pressure in proportion to the degree of asphyxia and the rapidity with which it develops. The rise in the blood pressure is greater when accompanied by struggling. There may be a rise varying from fifty to one hundred fifty millimeters of mercury. After reaching the peak the pressure then drops rapidly to below normal. The fall is of short duration, since the blood pressure returns to normal when oxygen is administered.
2) *Increased adrenin in the blood stream.* This is caused by fear, struggling, emotional excitement, et cetera. The increased adrenin will cause a rapid rise in the blood pressure. The outcome of this rapid rise in blood pressure may be:
   a) *Acute cardiac dilatation:* This is due to weakened heart muscle; that is, insufficient force to circulate the blood through the coronaries, thereby causing the heart to stop as a result of fatigue and anoxia. If the last two mentioned do not cause cardiac arrest, the patient may die a few days later from passive congestion and pneumonia.
   b) *Rupture of blood vessel.* An atheromatous blood vessel may rupture under the stress of increased blood pressure. Results depend on the location of the rupture.

Circulatory Accidents Due to Decreased Blood Pressure

Circulatory accidents due to decreased blood pressure are due to hemorrhage or shock. When the blood fails to deliver sufficient oxygen to the heart, brain cells, and other tissues of the body, to support the combustion of their activity, death is inevitable.

Shock and hemorrhage are the same. Shock is a form of hemorrhage, and hemorrhage is a form of asphyxia. The problem, in either case, is one of prevention of cardiac anoxia.

a) *Hemorrhage* — Hemorrhage reduces the oxygen to the heart and other parts of the body. Such a condition can be corrected by administration of intravenous solution to maintain proper pressure on the vascular system; and by the administration of a high concentration of oxygen under high tension.
b) *Shock*—is a circulatory deficiency, not cardiac and not vasomotor in origin, characterized by decreased total blood volume, decreased volume flow and by hemo-concentration. The origin of shock may be traumatic or anesthetic. As a rule the two causes work together. Shock is

usually recognized by a drop in the systolic blood pressure, and accelerated pulse with decreasing volume.

Accidents Due to Reflex Ventricular Fibrillation

This type of accident occurs between five and thirty years of age. Ventricular fibrillation is a worm-like movement of the ventricular muscles with the heart in full diastole. It consists of unsynchronized contraction and relaxation of the individual muscle fibers, which provide no circulation of the blood. Deaths from ventricular fibrillation are due to cardiac anoxia. If the fibrillation passes off before the reserve oxygen in the heart tissues is consumed the heart will regain its normal activity almost immediately. If, however, the fibrillation holds until the reserve oxygen is so depleted that anoxic depression prevents the re-establishment of normal cardiac activity, the heart will fail to function again. Ventricular fibrillation occurs without warning, and must pass off in less than a minute or death will result.

Ventricular fibrillation is most likely to occur in the periods of life when general physiological activity is greatest, that is, between the ages of five and thirty years. Clinical recognition of the phenomenon depends largely upon the appreciation of predisposing circumstances surrounding the case at hand.

If the pulse stops without warning during the induction of anesthesia, the cause is probably ventricular fibrillation. Respiration stops almost immediately after the ventricles fibrillate. Unless the anesthetist has his finger on the pulse constantly, fibrillation will be well upon its way before it is recognized. The respiratory cessation will likely be mistaken for one of the frequent respiratory pauses occurring at this stage of anesthesia and death occurs almost before the anesthetist is aware that anything is wrong. If during any period of light anesthesia, when epinephrine is being used by the surgeon for hemostasis, the pulse stops without warning, there is probably a ventricular fibrillation. Embolism and acute cardiac dilatation might be confused with ventricular fibrillation; although in none of these will the pulse go from normal to nothing between two heart beats.

Causes of Ventricular Fibrillation

1. Increased activity of the sympathetic nervous system and the resultant increase of the adrenin in the blood, together with a probable increase in the irritability of the ventricular muscle itself.
2. Emotional excitement or fears; this stimulates the sympathetic nervous system and the adrenals.

MISCELLANEOUS ACCIDENTS

Under this heading we refer to the following conditions:

1. *Atelectasis*—may appear during the operation and anesthesia or later. Atelectasis may be due to:
   a) Mucus plug in the main bronchus.
   b) Aspiration of vomitus during anesthesia.
   c) Splinting of diaphragm due to severe pain on inspiration. This is more prevalent in upper abdominal surgery.
2. *Tracheal Collapse.*—This occurs in thyroid surgery. Avoided by using orotracheal anesthesia.
3. *Cerebral hemorrhage or emboli*—may occur during anesthesia or later; usually due to gross ar-

terial disease or endocarditis. Truly, these may be considered as accidents under anesthesia but not anesthetic accidents.

4. *Convulsions* — may occur during anesthesia. If prolonged or severe they may cause death indirectly by circulatory and respiratory arrest. More common in children with ether, ethyl chloride or gas anesthesia.
5. *Paroxysmal tachycardia* — may appear under anesthesia as well as under any other circumstance. As a rule, there is no need for alarm, and the heart usually returns to normal without serious results.
6. *Cerebral asphyxia*—Anoxia will cause brain damage. In circulatory or respiratory failure, damage to the brain is inevitable unless the oxygen supply to that organ is maintained by artificial respiration.
7. *Status lymphaticus*—occurs only in children. This condition is a great help to the anesthetist when explanation for certain tragedies are necessary. However, status lymphaticus may be the cause and should not be overlooked.
8. *Injury to the eyes*—Conjunctivitis and traumatic keratitis are the usual complications. They are less common than in previous years. As a rule these accidents are due to carelessness on the part of the anesthetist.
9. *Postoperative hyperthermia*—An abnormally high body temperature following an anesthetic is less common than would be expected. Fever develops within four to six hours, and is probably due to the effect of the anesthetic agent on the heat regulation center in the hypothalamic area.
10. *Anesthetic explosions*—This is a subject in itself. Extensive investigation is being carried on at the Massachusetts Institute of Technology and by the University of Pittsburgh School of Medicine in collaboration with the United States Bureau of Mines. It will suffice at this time to say that the sources of ignition of inflammable agents during anesthesia are — open flame, cautery and electric spark.
11. *Remote or delayed causes of death* — may occur any time within seventy-two hours after the operation. When the patient is transferred from the operating room the anesthetic complications are not at an end. Anesthetic agents may be the cause of death up to within seventy-two hours following their administration, viz:—
    a) *Respiratory complications:* Bronchitis, pneumonia, lung abscess, atelectasis, et cetera; caused by irritating anesthetic agent, poor ventilation, aspiration of mucus, pus, blood, et cetera. Frequently an overdose of anesthetic agent is the offending cause.
    b) *Acidosis*—by the term acidosis is meant a decrease in the alkali reserve of the body, and hence a disturbance of the acid-base equilibrium. This may be due to over-dosage of the anesthetic agent, lack of carbon dioxide, dehydration, et cetera.
    c) *Postanesthetic psychoses* —These usually occur in old persons. This condition is seldom fatal.

TREATMENT

Preventive

1) Careful preanesthetic examination to determine the type of risk; and to guide in the selection of preanesthetic medication and the anesthetic.
2) Adequate preliminary medication to prevent fright, minimize struggle and suppress sympathetic hyperactivity.
3) The selection of anesthetic agent or agents best suited for the particular case.
4) Do not rush the induction period.
5) Avoid external stimuli during the induction period.
6) The anesthetic level should be varied to conform to the progress of the surgical procedures and continued deep narcosis should be avoided.
7) Airway should be open and efficient breathing maintained at *all* times.
8) Accurate record of blood pressure, pulse and respiration at all times.
9 The time factor in surgery is a vital factor that is frequently overlooked. The degree of depression varies directly with the operating time and the depth of narcosis.

Active

Be prepared to deal with any anesthetic emergencies or complications that may occur, such as vomiting, convulsions, shock, et cetera. Stimulants, oxygen under pressure, and suction equipment should be available for emergency treatment at all times during anesthesia.

In conclusion, I wish to say that teamwork between the surgeon, the anesthetist and the nurses is extremely essential to the success of every operation. Neither should make unreasonable demands upon the other, but should coordinate their efforts in the best interest of the patient.

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DEPARTMENT OF EDUCATION

ANATOMY OF THE RESPIRATORY SYSTEM

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THE BRONCHIAL TREE

In man the respiratory system consists of nose, mouth, pharynx, larynx, trachea, bronchi, bronchioles, terminal bronchioles, respiratory bronchioles, alveolar ducts, alveolar sacs and their eventual alveoli; a huge number of these bronchioles, air spaces and alveoli being grouped within a closed serous membrane sac (*pleura*) to constitute a lung.

Air entering through the nose or mouth passes down the pharynx, through the larynx and into the trachea (a cylindrical structure composed of cartilaginous rings, situated in the center of the upper thorax). The trachea at its lower end bifurcates into two main bronchi, one proceeding to and within the right lung, the other proceeding to and within the left lung. Each of these main bronchi divides in-

to bronchioles, and these in turn into many progressively smaller bronchioles, all terminating eventually in minute alveoli. Thus, air passing down the trachea is conducted through an ever increasing number of progressively smaller air passages until it reaches the final alveoli, within the structures of which the actual exchange of gases takes place between the respired air within the alveoli and the circulatory blood as it courses through the tiny capillaries which so bountifully invest the walls of each alveolus.

While the alveoli themselves are individually exceedingly small in size, they exist in huge numbers (something like four hundred million in an adult lung). As a result of this, there is exposed to respiratory air an alveolar surface equal to something like one hundred times the surface of the entire external body. Because of this tremendous alveolar area with which the pulmonary circulation is brought into contact, a very effective exchange of gases takes place between the alveolar air and the blood flowing through the pulmonary capillaries, even during the brief period of transit of that circulatory blood through the lungs.

It is to be noted that the trachea, bronchi, bronchioles and air sacs are merely *conductors* of respiration air, and that while the bronchi by alterations in their caliber (alterations in the size of their lumen) contribute to the physical effectiveness of inspiration and

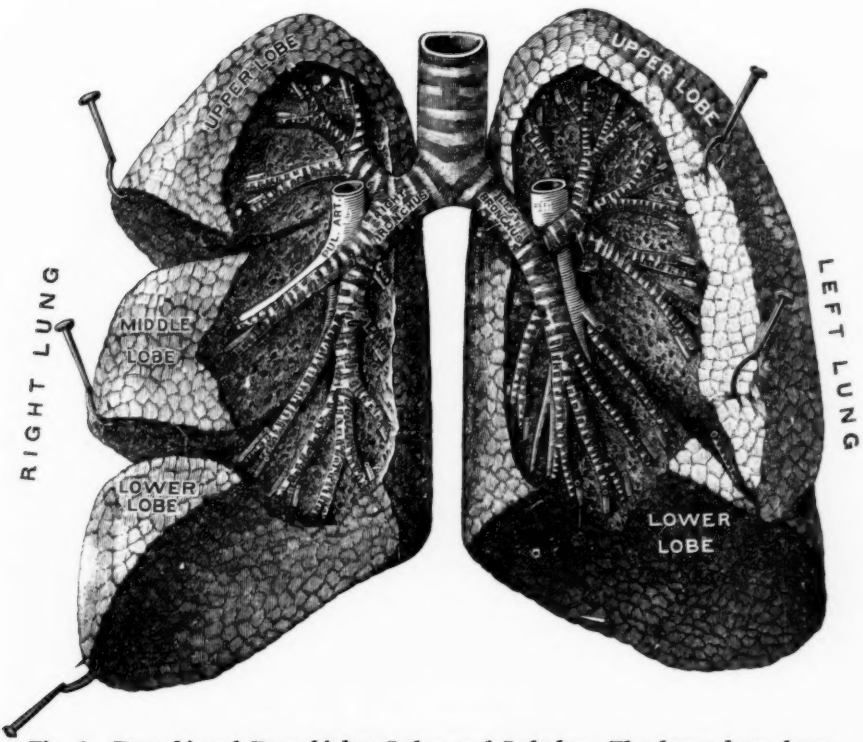

Fig. 1. Bronchi and Bronchioles: Lobes and Lobules. The lungs have been widely separated and tissue cut away to expose the air tubes. (Gray's Anatomy, courtesy Lea & Febiger.)

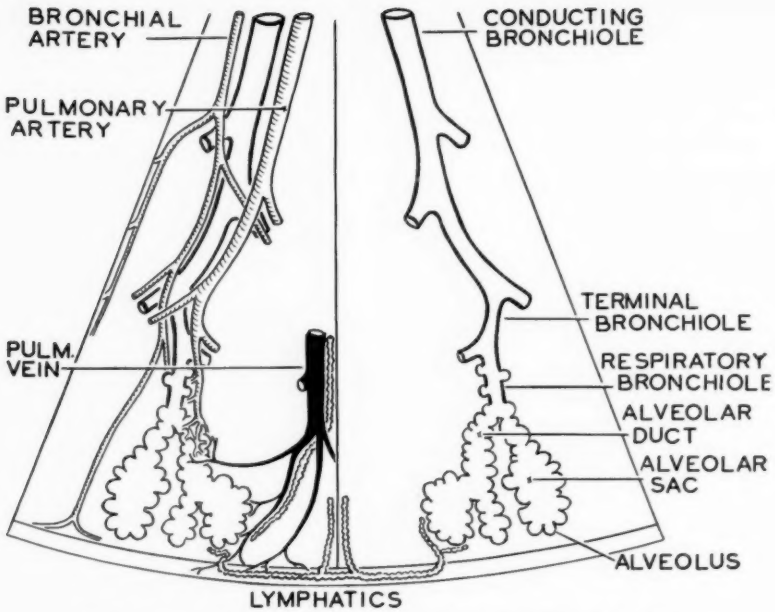

Fig. 2. Structure of a primary respiratory unit of the lung.
(A Method of Anatomy, J. Boileau Grant, courtesy Wm. Wood & Co.)

expiration, these air conductors do not of themselves enter into the act of actual respiration; as that exchange of gases between (a) respiratory air and (b) pulmonary circulation, takes place only in the respiratory bronchioles and in the alveoli themselves.

Illustrative of the above, Macklin proposes considering the bronchial tree as consisting of two parts:—the first part to embrace the mere air conduits, which extend from the trachea to and including the terminal bronchioles; (these "branches" and "twigs" of the "tree" possessing no respiratory function) (Fig. 1)—the second part, to embrace the actual respiratory structures, which lie *distal* to the terminal bronchioles, (these "leaves" of the bronchial tree constituting the structures in which the actual respiratory function takes place). Each of these individual leaves of the respiratory tree embraces a cluster of basic structures (*respiratory* bronchioles, alveolar ducts, alveolar sacs and alveoli; together with their arteries, veins and lymphatics), this basic group constituting the anatomical and physiological primary respiratory unit of the lung (Fig. 2). It is the distensible or "bellows" part of the lung structure.

In the foregoing outline, the modern conception is presented of "terminal bronchioles" emptying air into "respiratory bronchioles"—these respiratory bronchioles dividing into "alveolar ducts" and "alveolar sacs," from the walls of which evaginate the final minute sacculations called "alveoli"; this "assembly" (of a terminal bronchiole, with its own little group of attendant ducts, sacs and eventual alveoli, together with their vessels, nerves, muscular tissue and connective tissue), constituting the structural and physio-

logical unit of the lung. The older terms "atria" and "infundibula" which have caused considerable confusion in the past (and being without particular physiological significance, according to Starling) have been purposely discarded from these present notes, in favor of the more modern terminology.

THE LUNGS (PULMONES).

The lungs themselves may be considered as two large closed membranous sacs, completely enveloping their enclosed bronchi, bronchioles, air sacs, alveoli, et cetera, and occupying the greater part of the thoracic cavity.

Each lung is divided by deep fissures into *lobes;* the right lung into three lobes, the left lung into two lobes.

Each lobe is made up of a great number of *lobules.* The outlines of the peripheral layer of these lobules are visible on the external surface of the lungs in the form of clearly defined pigmented lines identifying their polyhedral boundaries.

The right and left lung are separated from each other by an area called the *mediastinum,* which area contains the heart, trachea, esophagus and other structures. By reason of the fact that the heart encroaches upon the left lung, the left lung is smaller than the right.

The root of the lung is the term applied to that area of the lung through which a number of structures both enter it and leave it at the wedge-shaped depression called the hilum that indents its mesial surface. These structures which pass into and out of the lung at its hilum, and which constitute its root, are notably (1) the pulmonary arteries and veins coming from, and returning to the heart, (2) bronchi from the trachea , (3) pulmonary nerves, lymphatic vessels, bronchial glands and aerolar tissue. This group of structures is held together by an investment of pleura which is a continuation of the mediastinal pleura described on page 172. The root of the lung constitutes a pedicle by which each lung is attached to the mediastinum.

THE PLEURAE.

The pleurae are two serous membranes, one right and one left, each of

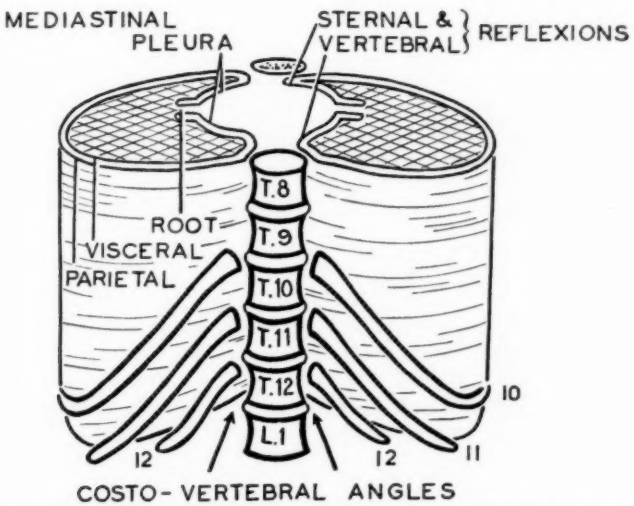

Fig. 3. The pleurae and their reflexions, from behind.
(A Method of Anatomy, J. Boileau Grant, courtesy Wm. Wood & Co.)

which constitutes the covering for the lung which lies within it. After completely investing the entire lung structure itself, each pleura reflects mesially as a continuation of itself to cover first the root of the lung, then to cover the mediastinum, and finally from the sternal and vertebral reflexions, to line the walls of the thoracic cavity (Fig. 3).

The inner layer of pleural membrane, which is inseparably fused with the lung that it covers, (extending into the interlobar fissure) is called the *visceral pleura* or *pulmonary pleura.*

The outer layer of pleural membrane, which is fixed to and which lines the thoracic cavity in its various dimensions, is called the *parietal pleura.* Its various areas are named descriptively as follows according to the precise structures with which they are associated:—

Superiorly, that portion of the parietal pleura which rises up into the neck over the apex of the lung, is called the *cervical pleura* or "cupola of the pleura." Laterally, that portion of the parietal pleura which lines and is affixed to the internal surfaces of the ribs and intercostal spaces, is called the *costal pleura.* Inferiorly, that portion of the parietal pleura which invests and is affixed to the diaphragm, is called the *diaphragmatic pleura.* Mesially, that portion of the parietal pleura which reflects posteriorly from the sternum (sternal reflexion) to pass over and cover the pericardium and other anterior mediastinal structures, is called the *mediastinal pleura.* Likewise, that portion of the parietal pleura which reflects anteriorly from the vertebral column (vertebral reflexion) to pass over and cover the esophagus and other posterior mediastinal structures, is also called the *mediastinal pleura* (Fig. 4).

While the foregoing several areas of the pleurae are for purposes of identification described by the names noted, it is to be remembered that the various portions of each pleural membrane are actually continuous with each other; each constitutes a continuous unbroken membranous sac.

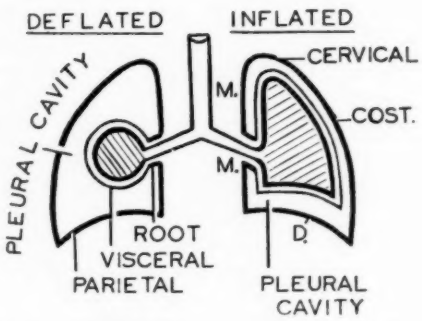

Fig. 4. The pleurae; cervical, costal, diaphragmatic, mediastinal. The lung is represented as a balloon with a stalk. (A Method of Anatomy, J. Boileau Grant, courtesy Wm. Wood & Co.)

THE PLEURAL CAVITY.

Where the pulmonary pleurae and the costal pleurae lie in apposition to each other, their surfaces are separated by only a thin layer of lymph which lies between them, which is secreted there for lubricating the slippage of their surfaces over each other. While in the normal state these surfaces are in actual contact with each other, the space between them constitutes a *potential cavity,* which becomes an *actual* cavity when air or liquid is introduced between them, either through the chest wall, or through a lesion in the lung, or as a result of pathological exudation; (pneumothorax, hydrothorax, empyema, et cetera). The space (potential *or* actual) existing between the visceral pleura and the parietal pleura, is called the *pleural cavity* (Fig. 5).

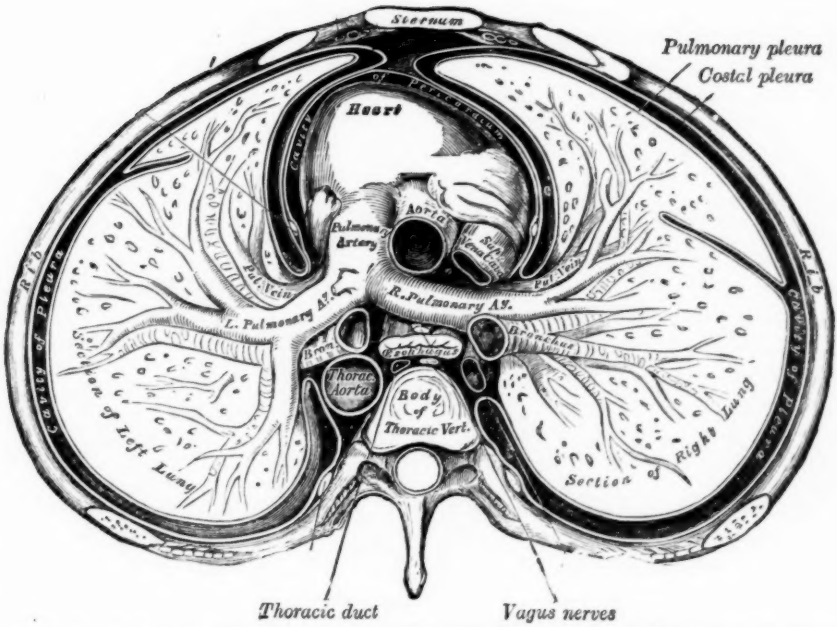

Fig. 5. A transverse section of the thorax showing the pulmonary pleura, costal pleura and the contents of the middle and posterior mediastinum. The pleural and pericardial cavities are exaggerated since normally there is no space between visceral and parietal pleura and between pericardium and heart. (Gray's Anatomy, courtesy Lea & Febiger.)

THE SIMPLE MECHANICS OF BREATHING

The thorax may be defined as that part of the body cavity enclosed within the bony cage which is formed by the ribs, the sternum and the thoracic vertebrae, extending from the neck to the abdomen. It is a closed cavity, entirely shut off from contact with the outside.

Together with the other thoracic viscera, the lungs completely fill the closed thoracic cavity. Their membranous covering of pulmonary pleura lies laterally in intimate contact with the costal-pleura-lined walls of the thorax.

This close apposition of the structural lung covering, to its opposed pleural-lined thoracic walls, is caused and maintained by the negative pressure which during life is normally present in the potential cavity that exists between that lung covering and the thoracic walls. Accordingly, when a mechanical enlargement in size and volume of the thoracic cavity takes place, it is accompanied by a corresponding enlargement in the size and volume of the lungs. The normal size of the thorax and of its contained lungs, is regarded as that which exists at the end of an ordinary expiratory movement—when all of the respiratory muscles are at rest. Normal breathing is regarded as consisting of an active inspiration, followed by a passive expiration.

Inspiration. The act of inspiration results from a mechanical enlargement

of the thoracic cavity, which is effected in the following manner:—

(1) Contraction of the muscles of the diaphragm pull that structure markedly downward, thus enlarging the size of the thorax in its superior-inferior dimension. Accompanying this descent of the diaphragm, the abdominal viscera are compressed downward and force the abdominal wall outward.

(2) Contraction of inspiratory muscles attached to various ribs, vertebrae, the sternum, et cetera, pulls the ribs upward and outward, thus increasing the size of the thorax in that dimension.

These enlargements in size of the thorax in its various dimensions, create an increased negative pressure within the pleural cavity which lies between the thoracic walls and the lung covering—this "suction" effect keeping the pulmonary pleura in continued close apposition to the chest wall during the enlargement in volume which necessarily accompanies the thoracic expansion. As this mechanically induced enlargement in volume of the lung takes place, air is drawn into it from the outside atmosphere, through the freely open respiratory tract; and the air so taken into the lungs in this mechanistic way, constitutes an inspiration.

Expiration. The act of normal expiration is a more passive procedure, being accomplished chiefly by merely physical forces. As the inspiratory muscles relax, the following sequence of events transpires:—

(1) The diaphragm returns upward to its normal, relaxed, arched position. It is assisted in this return by upward pressure from the abdominal viscera which were forced downward during inspiration, but which now return to their normal positions, assisted by the contractive elasticity of the stretched abdominal wall.

(2) The weight and torsion of the ribs cause their portion of the thorax to sink back to resting position.

(3) During these diminutions in size of the thoracic cavity in its various dimensions, the elastic tissues of the lungs are enabled to correspondingly contract from their expanded "inspiratory" volume. As they do so, they force their air out into the atmosphere, through the open respiratory tract. When the thorax and lungs have reached their normal "resting" position, an expiration has been effected.

Note: While during expiration the intercostal muscles do contract to pull the ribs together, and the bronchial wall muscles do shorten and narrow the bronchi, these forces are not sufficiently great to change the designation of the normal expiratory act from an essentially passive function, to that of an active one.

Discussion. As a matter of record, it is to be noted that the foregoing classical description of the mechanics involved in the act of inspiration is at slight technical variance with a contention which has been urged, that "atmospheric positive pressure," and not "intrapleural negative pressure" causes the lung expansion to parallel thoracic-cavity expansion during the inspiratory phase. Both factors are involved; but avoiding many argumentative details, it would seem that an inclusive summing up of the salient controversial features is achieved,

by stating that the act of normal inspiration results from *changes* in the pressures which are presented to the surfaces of the pulmonary pleurae, during, and as a result of, inspiratory enlargement of the thoracic cavity. As intrapleural negative pressure is increased by the expanding thorax, its outward pull on the external surface of the pulmonary pleura is "accommodated" by the degree of positive pressure which is communicated to the internal surface of that pulmonary pleura from the atmosphere, with which it is in communication through the open respiratory tract. As Graham has aptly stated, the passage of air down the trachea and into the lungs, is essentially a suction action.

PULMONARY VENTILATION.

If at the end of an ordinary inspiration, a further forcible inspiratory effort is made, it will be found that an additional amount of air can be breathed in. The average amount of this additional volume, in normal adults, is approximately 1,500 to 2,000 cc. The air which can be so added to the lungs through this additional available volume of inspiration, is called *complemental* air.

The air which is inhaled and exhaled during ordinary breathing is called *tidal* air. Tidal volume for the average adult during quiet breathing is about 500 cc. per inspiration.

If at the end of an ordinary expiration, a further forcible expiratory effort is made, it will be found that an additional approximately 1,500 cc. of air may be exhaled. The air which can be so expelled from the lungs through this additional available volume of expiration, is called *supplemental* air.

> The combined volumes of:—complemental air, tidal air, and supplemental air (the total amount of air which can be exhaled after a maximal inspiration, or that can be inhaled after a maximal expiration) is called the *Vital Capacity.* This maximum possible amount of an individual's *forced respiratory exchange*, averages in a normal adult about 4,000 cc.

But even by means of the most forceful expiratory movement, it is not possible to exhale all of the air from the lungs, an approximately 1,500 cc. of air remaining. This air which remains in the lungs after such maximal forced exhalation is called *residual* air.

> 2,000 cc. Complemental air
> 500 cc. Tidal air
> 1,500 cc. Supplemental air
> 1,500 cc. Residual air
> ——
> 5,500 cc. Total Capacity of the respiratory organs.

Obviously the total capacity of the respiratory organs will vary considerably among different sized individuals ...and corresponding variations in the volume of residual air, supplemental air, complemental air, tidal volume and dead space in various individuals will result.

Not all authors adopt the same "average" figure for these several volumes. The table herein used is that of Waller, as published by Graham, Williams and others.

Dead Space Air. Not all of the air which is breathed in during an inspiration reaches the actual pulmonary alveoli, as a portion of it is contained within the merely conductive "branches" and "twigs" of the bronchial tree at the completion of the inspiration. This air which remains within the lumen of this non-respiratory portion of the bronchial tree at the end of a respiratory phase, is called *dead space* air. Since, as already stated, the

size of this "dead space" varies with individuals, so does the volume of dead space air vary with the individual, but in an average adult, during quiet breathing, the average volume of dead space air is about 150 cc.

From the foregoing it will be seen that while tidal volume of breathing may average 500 cc., only about 350 cc. of that inspired air reaches the actual respiratory areas, to mix with the approximately 3,000 cc. of "stationary air" already there.

At the end of an inspiration, the dead space air consists of the atmosphere that has just been breathed in, practically uncontaminated by respiratory products of blood oxidation. It also naturally represents, at the same time, the first fraction of air that will be expired. At the end of expiration, the then dead space air has come from the alveolar areas and is accordingly laden with carbon dioxide.

EXPLANATION OF PRESSURE TERMINOLOGY

Intrapulmonic Pressure (Intrapulmonary Pressure) relates to the conditions of pressure existing within the lung structure itself (the distensible and collapsible structure enclosed within the pulmonary pleura). When the lungs are at rest, at the end of an inspiration or at the end of an expiration, intrapulmonic (intrapulmonary) pressure equals that of the outside atmosphere with which it is in free communication through the open respiratory tract. It is therefore at that resting phase, neither positive nor negative.

During the act of inspiration, intrapulmonic (intrapulmonary) pressure becomes "negative," or less than that of the outside atmosphere. This is brought about by the already described active enlargement of the thorax, whose outward pull expands the lungs faster than their air can be drawn in without frictional resistance from the mechanical constrictions that are interposed by the glottis (which is normally the narrowest part) and other portions of the respiratory tract. The extent of this intrapulmonic negative pressure during inspiration, depends upon (a) the rapidity and amplitude of the muscular inspiratory enlargement and (b) the size and degree of resistant constrictions that may exist between the lungs and the outside atmosphere. During quiet, normal inspiration, intrapulmonic negative pressure averagely registers approximately minus 2 millimeters of mercury (—2 mm. Hg.).

During the act of expiration, intrapulmonic (intrapulmonary) pressure becomes "positive" or greater than that of the outside atmosphere. This is due to the fact that the speed of contraction in size of the thorax is such that it permits the contractile lungs to reduce their volume faster than their air can be expelled through the conductive respiratory tract without frictional resistance from the glottis and other portions of the tract through which it must pass in exhalation. Hence, pulmonic air is "compressed" somewhat and positive pressure is thereby created within its area. During quiet, normal expiration, intrapulmonic positive pressure averagely registers approximately plus 3 or plus 4 millimeters of mercury (+3 or +4 mm. Hg.).

Intrapleural Pressure (Intrathoracic Pressure) relates to the conditions of pressure existing within the thorax, but outside of the lungs. It embraces the pleural cavity and the mediastinum (the mediastinal spaces). This intrapleural or intrathoracic pressure denotes the condition of pressure under which the heart, the great vessels, the thoracic duct and other structures

within the mediastinum function. Normally, intrathoracic pressure is negative and therefore the vital mediastinal structures carry on their work at a pressure that is lower than that of the outside atmosphere. This intrathoracic negative pressure facilitates the drawing of blood up into the large venous trunks and into the auricles of the heart, due largely to a "sucking" effect. It also plays an important rôle in maintenance of normal lymph flow through the thoracic duct which empties into the venous stream to the heart. Conversely, positive pressure introduced to the intrathoracic area inhibits these actions.

The intrapleural (intrathoracic) negative pressure under which the lungs, heart, great vessels and other thoracic organs normally carry on their work, is caused by the counterplay of two opposed forces, (1) the already described inspiratory pull by the diaphragm and thoracic cage as they expand the cavity downward, upward and outward acting against (2) the tonic, contractile counter pull inward of the elastic lung structure, which continuously acts to contract the pleural lung covering away from the thoracic walls and from the diaphragm. While the degree of the resultant negative pressure within the intrapleural cavity varies markedly with different individuals, and even in the same individual at different times, it is stated (by Aaron and others) to average in adults "minus 4.5 to minus 9 millimeters of mercury during quiet inspiration" and "minus 3 to minus 6 millimeters of mercury during quiet expiration." The chest service at Barnes Hospital has noted during inspiration "minus 2 to minus 18 millimeters of mercury, according to the phase at which the reading were taken" and has noted during expiration "from almost zero to minus 8 millimeters of mercury, according to the phase at which it was taken."

It is to be noted that intrapleural (intrathoracic) pressure does not equal atmospheric pressure, but instead continues to be "negative," even during expiration. This is due to the fact that during expiration the constant contractile tension of the elastic lung structure continually acts to pull its closed covering (pleura) away from the thoracic walls, in an effort to deflate itself to an "unstretched" state. This contractive effort the lung structure continues even at the end of expiration, when each lung is still "expanded" to the extent of the supplemental air and of the residual air which it contains at the end of the expiratory phase.

While intrapleural pressure does not reach atmospheric pressure during expiration, both intrapulmonic pressure and intratracheal pressure do reach, and exceed, atmospheric pressure during the expiratory phase, due to the fact that both of these latter areas (intrapulmonic and intratracheal) lie between the actuating compressor force of the contracting lung covering (pulmonary pleura) and the frictionally resistant narrowed opening of the glottis.

THE MEDIASTINUM.

As has been noted (page 171), the space between the lungs is occupied by a group of structures which includes the trachea, esophagus, heart, great arteries, great veins, thoracic duct, et cetera. This median space, within which these structures lie, is called the *mediastinum.* The structures within its boundaries are called the mediastinal contents (Fig. 5). While for convenience in description, the mediastinum is divided anatomically into several areas, we will for our purpose here consider it in its entirety, as

a single structure composed of the mediastinal contents "walled in" by, and lying between, the right and left mediastinal pleurae.

Normal Mobile Mediastinum: Normally the mediastinum is somewhat mobile, moving slightly forward and backward with inspiration and expiration. When positive pressure is presented to one side of it, as in the creation of an artificial pneumothorax in that side of the chest, the mobile mediastinum shifts (is forced) over toward the other side of the thorax, thereby encroaching upon the unoperated lung and consequently decreasing its respiratory capacity. The practical significance of this physical phenomenon, to the anesthetist, lies in its indication for administering the anesthesia under sufficient positive pressure to counterbalance the contralateral pressure that has been introduced by the pneumothorax, and to thereby prevent encroachment of the mobile mediastinum upon the unoperated lung at a time when its fullest respiratory integrity is vitally needed.

Fixed Mediastinum. Under certain circumstances, such as pleural adhesions, induration in empyema, et cetera, the normally mobile mediastinal tissues become somewhat stabilized, and a condition termed "fixed mediastinum" exists, in which the anchored or stiffened mediastinal structure resists the positive pressure of pneumothorax and thereby prevents the increased (atmospheric) pressure of the pneumothorax from forcing the mediastinum over into the unaffected lung.

Whether a patient's mediastinum is "mobile" or "fixed," and therefore whether the anesthesia during pneumothorax is to be conducted under increased positive pressure or at merely atmospheric pressure, is determined by the surgeon's findings at the operative field. It is important that the anesthetist understand the significance of the physiological functions and mechanics involved.

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ACTIVITIES OF STATE ORGANIZATIONS

ALABAMA

The annual meeting of the Alabama Association of Nurse Anesthetists was held March 23, 1940, at the Tutwiler Hotel in Birmingham, the President, Miss Mary Blande Parks, presiding.

The following officers were elected:

President
Frances Bishop
St. Vincent's Hospital, Birmingham

First Vice-President
Delle Iva Philen
1029 Eighteenth St., Birmingham

Second Vice-President
Edith Holmquist
Jefferson T. B. Sanitarium, Birmingham

Secretary
Hattie M. Barnes
South Highlands Infirmary, Birmingham

Treasurer
Stephanie Fóto
2712 Clairmont Ave., Birmingham

FRANCES BISHOP
President

GEORGIA

The second annual meeting of the Georgia Association of Nurse Anesthetists was held at the Georgia Baptist Hospital, Atlanta, Georgia, on May 31st, 1940.

Report of Secretary

Members in good standing		39
Delinquent members	2	
Members transferred to Georgia	5	
Members transferred from Georgia	3	

Report of Treasurer

Cash on hand April 1, 1939		$ 35.62
Receipts:		
Dues	$ 249.00	
Initiation fees	6.00	255.00
Total		$290.62

Disbursements:

Dues to American Association	$ 169.75	
Initiation fees to American Association	6.00	
To Southeastern Assembly of Nurse Anesthetists	68.60	
Office expense	13.62	
Total		$257.97
Cash on hand March 31, 1940		$ 32.65

Officers elected:

President
Halo H. Warman
Emory University Hospital,
Emory University

Vice-President
Jean Greear McGinty
Elbert Co. Hospital, Elberton

Secretary-Treasurer
Alpha Schier
St. Joseph's Infirmary, Atlanta

Trustees:
Rubye Ridley
Rosalie C. McDonald
Leola Vickers

Membership Committee:
Beata B. Clark
A. Dorothea Sheppard
Mabel G. Stott

HALO H. WARMAN
President

CALIFORNIA

A meeting of the California Association of Nurse Anesthetists was held on May 21st, 1940, at the Franklin Hospital, San Francisco, with an attendance of thirty.

Dr. Ralph Scovel gave an interesting talk on "The World Today, and in What Way Does It Affect Us?"

Miss Martha Bichel, President of the Association, was elected unanimously as Trustee for the Anesthesia Section on the Board of the Association of Western Hospitals. The Program Committee reported great success in selling tickets on $5.00 admission books to the San Francisco Fair, and it is anticipated that a substantial sum will be realized.

Refreshments were served at the conclusion of the meeting.

Officers elected:

President — Martha Bichel
Franklin Hospital, San Francisco

First Vice-President	Gladys M. Bolton 972 Bush St., San Francisco
Second Vice-President	Katherine H. Graham San Francisco Hospital, San Francisco
Secretary-Treasurer	Marian L. Lagan 5 Prado St., San Francisco
Trustee	Mabel Cauthorn 318 Elm St., San Mateo

ILLINOIS

The first annual joint meeting of the anesthetists of Illinois, Indiana and Michigan was held at the Stevens Hotel, Chicago, Illinois, on May 1st and 2nd, 1940, in conjunction with the Tri-State Hospital Assembly. The complete program was published in the May, 1940, issue of the Bulletin.

At the joint luncheon for the anesthetists the attendance was eighty-three, and at the afternoon general session one hundred and seventy-five were present. A large number of the anesthetists attended the banquet given by the Tri-State Hospital Assembly, at which Mr. James Hamilton, President of the American College of Hospital Administrators, was the guest speaker.

The meeting aroused much enthusiasm and it was voted unanimously to meet with the Tri-State Hospital Assembly in 1941. Mrs. Mae B. Cameron, Ravenswood Hospital, Chicago, Ill., was elected Chairman for the coming year.

Illinois Association Officers elected:

President
Nelle G. Vincent
Evanston Hospital, Evanston

First Vice-President
Edith H. Holmes
1044 N. Francisco Ave., Chicago

Second Vice-President
Ann Priester
West Suburban Hosp., Oak Park

Secretary
Gladys Hoffman
6001 S. Green St., Chicago

Treasurer
Exire O'Day
Ravenswood Hospital, Chicago

Historian
Marjorie Baker
St. Joseph's Hospital, Chicago

NELLE G. VINCENT
President

Standing Committees:

Educational	Sister M. Borromea, Chairman Mae B. Cameron
Membership	Jean Roth, Chairman Bernadine M. Zenz Marjorie Baker
Program	Esther L. McDermott, Chairman Lottie M. Baumgartner Jean Shaw
Finance	Ann Priester, Chairman Exire O'Day Mary Brooks
Revision	Sister Rudolpha, Chairman Anna Willenborg Martha Pippereit
Nominating	Edith H. Holmes, Chairman Myrna Willenborg Helga Hellickson
Legislative	Hattie M. Lewis, Chairman Valeda Hunt Alice Martin

IOWA

Following a call to meet in conjunction with the Iowa Hospital Association in Des Moines, the Iowa Association of Nurse Anesthetists was organized on April 23, 1940, and the following officers were elected:

President
Sister Mary Pauline, R.S.M.
Mercy Hospital, Des Moines

Vice-President
Mary A. Culp
Mercy Hospital, Des Moines

Secretary
Sylvia C. Abraham
Mercy Hospital, Council Bluffs

Treasurer
Myrtle E. Sven
Lutheran Hospital, Fort Dodge

Historian
Alma M. Brandt
Deaconess Hosp., Marshalltown

Trustees
H. Kiefer
Mary G. Puth
Sister M. Francella Dunton

SISTER MARY PAULINE
President

MINNESOTA

The second series of two lectures on anesthesia given by the Minnesota Association in April drew an attendance of one hundred and seventy-five anesthetists and doctors.

The sixth annual convention of the Minnesota Association of Nurse Anesthetists was held at the Nicollet Hotel, Minneapolis, on May 24, 1940, in conjunction with the Minnesota Hospital Association. The program, published in full in the May issue of the Bulletin, was enjoyed by an attendance of approximately one hundred.

The revised constitution and by-laws were submitted and approved.

Officers elected:

President	Charlotte Grams Gillette Hospital, St. Paul
Vice-President	Esther Rodenberg Gillette Hospital, St. Paul
Secretary	Marvel Shurr Midway Hospital, St. Paul
Treasurer	J. Marie Gronvold St. Joseph's Hospital, St. Paul
Trustees	Hazel Peterson Marie Petrowske

MISSISSIPPI

The Mississippi Association of Nurse Anesthetists held its annual meeting on May 13, 1940, at the Robert E. Lee Hospital, Jackson, Miss.

Mrs. Elizabeth Wates was appointed as a delegate to the annual meeting of the American Association of Nurse Anesthetists to be held in Boston in September. A membership and publicity drive is being planned for the year 1940.

Officers elected:

President
Elizabeth N. Wates
3950 Council Circle, Jackson, Mississippi

First Vice-President
Ruth Perry Glass
Methodist Hospital, Hattiesburg

Second Vice-President
Hettye Ellsey
11th St. and 21st Ave., Meridian

Secretary-Treasurer
Susie May Collins
c/o Drs. Trudeau and O'Mara, Biloxi

ELIZABETH N. WATES
President

FLORIDA

The Florida Association of Nurse Anesthetists will hold its annual meeting in Miami on November 2, 1940. For further particulars write Miss Marjorie L. Watts, President, Box 750, Plant City, Fla.

NEW JERSEY

The first annual meeting and dinner of the New Jersey Association of Nurse Anesthetists was held at the Douglas Hotel, Newark, N. J., on May 8, 1940, and a full and interesting program was enjoyed by the twenty-five members and guests in attendance.

Following the invocation by the Rev. J. G. Martin, Superintendent of St. Barnabas Hospital, Newark, and an address of welcome by Miss Della Logan, President of the New Jersey Association, Miss Martha Glenn, Historian, gave a report covering the activities of the group.

Mrs. Agnes Strandberg, of Carteret, N. J., read a paper entitled "Cyclopropane: A Case Report"; Miss Laura Bryant, of Cooper Hospital, Camden, discussed "Modern Anesthesia"; and the Rev. J. G. Martin gave an address on the subject "The Status of the Nurse Anesthetists."

Miss Mary A. Patterson, Cooper Hospital, Camden, was elected Secretary-Treasurer, following the resignation of Miss Nancy M. Bowles; and Miss Ruth E. Strom was elected to the Board of Trustees.

DELLA LOGAN
President

OREGON

At the May meeting of the Oregon Association Mrs. Margaret H. Love, Treasurer, was chosen as a delegate to the annual meeting in Boston in September. Printed copies of the Oregon revised constitution and by-laws were distributed to the members.

The monthly meetings of this active group have been discontinued for the summer but will be resumed in October.

NEW YORK

The seventh annual meeting of the New York Association of Nurse Anesthetists was held at the Hotel New Yorker, New York City, May 22 to 24, 1940. The program was published in the February, 1940, issue of the Bulletin.

It was voted unanimously to confer honorary membership in the New York Association upon Miss Hazel Blanchard, retiring President. The assem-

bly voted to contribute the sum of $100.00 toward the expenses of the Educational Survey.

The drawing for the diamond wrist watch took place at the meeting and it was won by Miss Anna E. Armstrong.

Officers elected:

President
Mrs. Frances Hess
Long Island College Hospital, Brooklyn

Vice-President
Donna D. Dougherty
Chas. S. Wilson Memorial Hospital, Johnson City

Secretary
Alice M. Racette
Ellis Hospital, Schenectady

Treasurer
May A. Danaher
1845 Becker Street, Schenectady

Historian
Pauline Lapinski
Long Island College Hospital
Brooklyn

FRANCES HESS
President

PENNSYLVANIA

The ninth annual meeting of the Pennsylvania Association of Nurse Anesthetists was held May 8-10, 1940, in Pittsburgh, Pa., in conjunction with the Hospital Association of Pennsylvania. Complete program was published in the May issue of the Bulletin.

Report of Secretary

Members in good standing April 1, 1939	204	
Members in good standing April 1, 1940	220	
Delinquent members:		
April 1, 1939	55	
April 1, 1940	56	
Resignations	3	
Deaths	1	
Members transferred to Pennsylvania Association	21	
Members transferred from Pennsylvania Association	18	
New members	28	
Total Membership April 1, 1940 (including delinquent members)		276
Correspondence—pieces mailed		1110
—pieces received		556
Bills mailed out December 1, 1939		268
Bills mailed April 1, 1940, to delinquent members		52

Report of Treasurer

Cash in Bank April 1, 1939		$1142.48
Receipts		
Dues	$ 1586.50	
Initiation fees	63.00	
Dues from American Association for members transferred to Pennsylvania Association	6.00	
Dues overpaid	2.00	
Pins	4.00	
Received from disbanded District No. 3	.16	
Old outstanding checks cancelled	1.00	$1662.66
		$2805.14
Disbursements		
Remittances to American Association of Nurse Anesthetists:		
Dues	$1059.75	
Initiation fees	60.00	
Pins	3.00	
	$1122.75	
Initiation fees refunded	3.00	
Dues refunded	6.00	
Dues overpaid—refunded to members	2.00	
Office expenses	64.05	
Convention expenses	201.31	$1399.11
Cash in Bank March 31, 1940		$1406.03
Represented by:		
Balance on deposit at the Central-Penn National Bank		$1406.03

Officers:

President	Edith E. Abary
1939-41	Harrisburg Hospital, Harrisburg
First Vice-President	Grace Williams
1940-42	Allegheny General Hospital, Pittsburgh
Second Vice-President	Edith Davis
1939-41	Allentown Hospital, Allentown
Secretary-Treasurer	Helen Young Walker
1940-42	1824 Wallace Street, Philadelphia
Trustees	Mary E. Miller
1939-41	Esther Kissell
	Madeleine M. King
1940-42	Edwina M. Irons
	Elizabeth M. Davis
	Leola M. Richter

Educational Booth—Pennsylvania Annual Meeting

VIRGINIA

The sixth annual meeting of the Virginia Association of Nurse Anesthetists was held at the John Marshall Hotel, Richmond, on April 27, 1940. At the business meeting, called to order by Mrs. Eloise Ward, President, the reports of the Secretary-Treasurer, and of the Revisions Committee by Mrs. Minnie Freese Payne, Chairman, were read and approved.

A paper on "Spinal Anesthesia" was read by Miss Leah L. Rosenbaum, Hospital of St. Vincent de Paul, Norfolk, and a lecture on "Medical Aspects of Anesthesia" was given by Dr. LeRoy Kellum of Richmond. Miss Vera G. Copeland of St. Elizabeth's Hospital, Richmond, led the discussion.

The members were entertained at a tea given by Mrs. Raymond C. Hooker at her home on Riverside Drive, and the annual banquet was held at the John Marshall Hotel at 8:00 P.M.

WASHINGTON

The Washington anesthetists held their first annual meeting in the Davenport Hotel, Spokane, on May 17th and 18th, 1940, in conjunction with the Washington Hospital Association.

An address of welcome was given by Mr. Frank Sutherlin, Mayor of Spokane; Miss Agnes E. Kilbride, President of the Eastern Division of the Washington Association of Nurse Anesthetists, welcomed the visiting anesthetists and Miss Elsa Koski, President of the Western Division, responded.

The following papers were read:

"Sodium Pentothal"
Martha M. Schwartz, Tacoma General Hospital, Tacoma, Wash.

"Physiology of Anesthesia and Anesthetic Convulsions"
Joseph W. Lynch, M.D., Spokane, Wash.

"The Status of the Nurse Anesthetists in Spinal Anesthesia"
Donald G. Corbett, M.D., Spokane, Wash.

"Cyclopropane Anesthesia"
Helen M. Zeimantz, Sacred Heart Hospital, Spokane, Wash.

"The Value of a Well-Organized Department of Anesthesia to the Hospital from the Standpoint of the Employer"
Fannie Forth, R.N., Assistant Superintendent, Deaconess Hospital, Spokane, Wash.

"The Value of a Well-Organized Department of Anesthesia to the Hospital from the Standpoint of the Employee"
Elsa A. Koski, Tacoma General Hospital, Tacoma, Wash.

"Anesthetic Problems in Small Hospitals"
Nan Rowlands, 607 Medical Dental Bldg., Seattle, Wash.

Interesting discussions followed the papers. Thirty-four members were registered. The total of ninety-three paid-up members, within a year after the group was organized, is evidence that a fine piece of work has been done. It is hoped that by 1941 the membership will total at least one hundred.

The entertainment for the visiting anesthetists included a luncheon, at which Mrs. Harry Davenport of Spokane reviewed the book "This Side of Glory." At the banquet the Spokane School Nurse, Miss Nell Kay, presented a style show, six student nurses serving as models.

Officers:

President	June C. Roberts Sacred Heart Hospital, Spokane
Vice-President	Emily S. Pursell Yakima
Secretary	Mildred Peterson 705 Broadway, Seattle
Treasurer	Esther Rudkin Deaconess Hospital, Spokane
Historian	Clara M. Trapp Sacred Heart Hospital, Spokane

Dinner—Long Island College Hospital Alumnae Association

LONG ISLAND COLLEGE HOSPITAL SCHOOL OF ANESTHESIA

The Long Island College Hospital School of Anesthesia Alumnae Association celebrated the twenty-fifth anniversary of the founding of the school with a dinner dance at the Hotel Granada, Brooklyn, N. Y., on February 6, 1940.

Miss Gertrude Steffen, Chairman, was assisted by Mrs. Helen Silverman, Miss Pauline Lapinsky and Mrs. Beulah Wagner. The guests of honor were Mrs. Ruth Nash, of Muhlenberg Hospital, Plainfield, N. J.; Dr. James Gwathmey of New York; Dr. L. L. Lapointe of Brooklyn; and Mrs. Frances Hess, Director, Long Island College Hospital School of Anesthesia.

ANNUAL JOINT LUNCHEON—ALUMNAE ASSOCIATIONS

As in former years, the Alumnae Associations of the Schools of Anesthesia of the following hospitals: University Hospitals (Lakeside), Cleveland; Long Island College Hospital, Brooklyn; Jewish Hospital, Philadelphia, and Grace Hospital, Detroit, will hold a joint luncheon during the annual meeting of the American Association of Nurse Anesthetists, on Tuesday, September 17th, 1940, at 12:00 o'clock P.M., at the Hotel Touraine, Boston, Mass.

Dr. Elliott C. Cutler, who was Professor of Surgery at the University Hospitals of Cleveland for several years, and who left to take the position of Moseley Professor of Surgery at Peter Bent Brigham Hospital in Boston left vacant by Dr. Harvey Cushing, will be the guest speaker.

Members of the American Association of Nurse Anesthetists are invited to attend. Tickets will be available at the registration desk.

In Memoriam

Miss Petrine Hoseth, formerly of St. Barnabas Hospital, Minneapolis, Minn., passed away on July 5, 1940. Miss Hoseth had been a member of the Minnesota and American Associations of Nurse Anesthetists since 1935.

CONTEST FOR STUDENT ANESTHETISTS

MARY W. LILLIG

At the eighth annual meeting of the Pennsylvania Association of Nurse Anesthetists, held in April, 1939, Hilda R. Salomon, Jewish Hospital, Philadelphia, offered a prize of $10.00 for the best paper on anesthesia written by a student anesthetist. The Pennsylvania Association also contributed $5.00 for a second prize. The papers submitted were judged by the Educational Committee of the American Association of Nurse Anesthetists.

Seventeen papers were entered in the contest—eleven by students of the Jewish Hospital, Philadelphia, and six from Mercy Hospital, Pittsburgh. The results were announced at the ninth annual meeting of the Pennsylvania Association held in Pittsburgh May 8-10, 1940, as follows:

First Prize	Miss Mary W. Lillig, Jewish Hospital, Philadelphia "The Importance of Carbon Dioxide in Relation to Anesthesia"
Second Prize	Miss Edith A. Aynes, Jewish Hospital, Philadelphia "Sulphanilimide in Relation to Anesthesia"
Honorable Mention	Miss Beulah Duxbury, Jewish Hospital Doris A. Kehoe, Jewish Hospital Priscilla Maietta, Jewish Hospital Doris McNerty, Jewish Hospital Ida Nystrom, Mercy Hospital S. J. Pitcher, Jewish Hospital Jeanne Rockerfeller, Mercy Hospital Ruth C. Wagaman, Mercy Hospital

The Board of Trustees of the Pennsylvania Association voted to continue the contest, which will be open to any student anesthetist in Pennsylvania. Miss Edith Abary, President of the Pennsylvania Association, donated the first prize of $10.00, and the Association again contributed the second prize of $5.00.

Members American Association of Nurse Anesthetists

August 1, 1940

ALABAMA		
Allen, Lola		Fayette
Barnes, Hattie M.**	South Highlands Infirmary	Birmingham
Beddow, Anne M.	Norwood Hospital	Birmingham
Bishop, Frances*	St. Vincent's Hospital	Birmingham
Bradford, Elizabeth	South Highlands Infirmary	Birmingham
Burns, Sarah Ola	Forrest General Hospital	Gadsden
Campbell, Bernice	1131—28th St., N.	Birmingham
Engelland, Violet C.	Selma Baptist Hospital	Selma
Foto, Stephanie	2712 Clairmont Ave.	Birmingham
Foust, Alma C.	Colbert County Hospital	Sheffield
Fuller, Ella	Highland Baptist Hospital	Birmingham
Gath, Fanny M.	3404 Altamont Road	Birmingham
Gaylord, Nathalie R.	Frasier-Ellis Hospital	Dothan
Hill, Mrs. Emily McClinton	Bellamy Hospital	York
Holmquist, Edith	T. B. Sanitarium, Jefferson Co.	Birmingham
Hyde, Edith	Norwood Hospital	Birmingham
Kilpatrick, Mrs. Wanita H.	1606 So. 12th Ave.	Birmingham
Long, Mrs. Elsie Owens	Grant Mill Road	Birmingham
McKenzie, Ima	Norwood Hospital	Birmingham
Maenner, Rose E.	59 Le Moyne Place	Mobile
Mehearg, Ida R.	Huntsville Hospital	Huntsville
Miller, Thelma	Hillman Hospital	Birmingham
Nelson, Thelma	Hillman Hospital	Birmingham
O'Curran, Irene E.	West End Baptist Hospital	Birmingham
O'dell, Mrs. Mary J.	4304 Clairmont Ave.	Birmingham
Parks, Mary B.	Druid City Hospital	Tuscaloosa
Philen, Della Iva	1029 Eighteenth St.	Birmingham
Rice, Verna M.	R. F. D. 1, Box 116	Mobile
Sister M. Paulette Foley	Holy Name of Jesus Hospital	Gadsden
Stone, Clara	429 North Walnut St.	Florence
Traber, Anna	2121 Highland Ave.	Birmingham
ARIZONA		
Christian, Marion M.	Cochise County Hospital	Douglas
Dearing, Lennie B.	Box 84	Flagstaff
McIntosh, Blanche	Box 586	Marenci
Maire, Frances H.	907-8 Nat'l Balley Bank Bldg.	Tucson
Sprecher, Esther M.	705 N. Euclid Ave.	Tucson
Thomas, Alice M.	305 Goodrich Bldg.	Phoenix
Wilson, Mrs. Blanch	General Hospital	Fort Defiance
ARKANSAS		
Atwood, Eva	Sparks Memorial Hospital	Fort Smith
Bauer, Eva A.	1320 Louisiana	Little Rock
Brown, Martha	Davis Hospital	Pine Bluff
Eldred, Ruth		Sulphur Springs
Harder, Mrs. Olive A.	St. Vincent's Infirmary	Little Rock
Howard, Claudia E.	1427 Poplar St.	North Little Rock
Petty, Blanche G.	1863 Chester St.	Little Rock
Phillips, Mary Ellen	St. Mary's Hospital	Russellville
Raper, Edith W.	Trinity Hospital	Little Rock
Rausch, Inez R.	University of Arkansas Hospital	Little Rock
Reynolds, Catherine	Sparks Memorial Hospital	Fort Smith
Summers, Mrs. Mary D.	Julia Chester Hospital	Hope
Tate, Mrs. Thelma R.	St. Louis Southwest'n Ry. Hosp.	Texarkana

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CALIFORNIA

Andersen, Emmeline	4023 H St.	Sacramento
Anderson, Vera M.	390 Central Ave.	Oakland
Arent, Madeleine	390 Central Ave.	Oakland
Armitage, Irene R.	Paradise Valley San. & Hospital	National City
Barbee, Mrs. Genevieve	1318 Pine St.	Martinez
Barker, Betty	Southern Pacific Hospital	San Francisco
Bartron, Kathryn	1167 Bush St.	San Francisco
Bates, Alta A.	3000 Regent St.	Berkeley
Berry, Comfort A.	30 Grand Ave.	Oakland
Bichel, Martha*	Franklin Hospital	San Francisco
Bishop, Mrs. Anna K.	75 Dolores St.	San Francisco
Bolton, Gladys M.	972 Bush St.	San Francisco
Brown, Mildred I.	416 Hawthorne Ave.	Oakland
Bulin, Emma J.	1537 Jackson St.	Oakland
Butler, Teresa	234 E. H. St.	Benicia
Casey, Veronica	2609—22nd St.	San Francisco
Cauthorn, Mrs. Mabel P.	318 Elm St.	San Mateo
Clark, Mrs. Bertha M.	450 Sutter St.	San Francisco
Clutton, Evangeline M.	426—29th St.	Oakland
Costa, Rosa	Sonora Hospital	Sonora
Culver, Edith	Sutter Maternity Hospital	Sacramento
Curtis, Adeline	117 No. Claudina St.	Anaheim
Dean, Mrs. Mildred W.	676 Alma Ave.	Oakland
Deering, Bessie G.	Sutter Hospital	Sacramento
Diebold, Ruth	San Joaquin General Hospital	French Camp
Donley, Helene	1255 Hamilton Ave.	Palo Alto
Doran, Irene	Franklin Hosptal	San Francisco
Doster, Mrs. Ella R. C.	827 North St.	Woodland
Duncan, Cleo	420 Hawthorne Ave.	Oakland
East, Lettie V.	Mercy Hospital	Sacramento
Eilertsen, Elanda J.	1908—46th St.	Sacramento
Ellis, Mrs. Vyevene	1035 Bush St.	San Francisco
Fox, Mrs. Laura de E.	Sanitarium	Napa County
Graham, Mrs. Katherine H.	1870 Washington St.	San Francisco
Goulet, Minnie	7707—1st Ave., N.W.	Seattle, Wash. (temp.)
Grimes, Flora A.	2930 Eye St.	Sacramento
Guptill, Martha M.	Merritt Hospital	Oakland
Hall, Annie J.	Mercy Hospital	Sacramento
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Huntimer, W. Serena	500 Stanyan St.	San Francisco
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Inghram, Elsie L.	Box 237	Millbrae
Jevne, Mrs. Sophie	6331 Hollywood Blvd.	Hollywood
Johnson, Mrs. Louise I.	2648 E. 14th St.	Oakland
Jones, Edith H.	952 Sutter St.	San Francisco
Jons, Elizabeth S.	500 Stanyan St.	San Francisco
Jurasch, Helen J.	Nurses' Qtrs., Marchfield	Riverside
Keenan, Katherine	40 Shrader St.	San Francisco
Kemp, Ada I.	Franklin Hospital	San Francisco
Kempers, Norma C.	542 E. McCloud St.	Stockton
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Malamphy, May	2068 Grove St.	San Francisco
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Miller, Louise	Monterey Hospital	Monterey
Morgan, Mrs. Gay	807—29th Ave.	San Francisco
New, Margaret O.	San Joaquin General Hospital	French Camp
O'Neil, May A.	75 Dolores St.	San Francisco
Pence, Mada	716—3rd St.	Woodland
Peters, Lillian L.	1202 Hampshire St.	San Francisco
Piercy, Mrs. F. Margaretta	1229 York St.	San Francisco
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Shaw, Jean	Cottage Hospital	Santa Barbara
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Winter, Mrs. Cecelia M.	2325 Castillo St.	Santa Barbara

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Courtney, Mrs. Helen M.		Oak Creek
Currie, Ethel F.*	Presbyterian Hospital	Denver
Hansbrough, Elizabeth	Fitzsimmons General Hospital	Denver
Kauffman, Loma	918 Raton Ave.	La Junta
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Sister M. Luitgaard	Thomas More Hospital	Canon City
Scheirer, Eleanor C.	Mercy Hospital	Denver
Stevens, Mrs. Ann M.	1620 Detroit St.	Denver
Stuart, Linda M.	Corwin Hospital	Pueblo
Vanderwood, Lena	Fitzsimmons Hospital	Denver

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Allison, Mary V.	Meriden Hospital	Meriden
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Blaney, May V.	St. Francis Hospital	Hartford
Boyer, Alpha J.	780 Howard Ave.	New Haven
Clarke, Lula A.	Litchfield County Hospital	Winsted
Cutcliff, Agnes	Bridgeport Hospital	Bridgeport
Davidson, Mary C.	Greenwich Hospital	Greenwich
Davis, Mrs. Sarah J.	Litchfield County Hospital	Winsted
Dunst, Elizabeth	St. Vincent Hospital	Bridgeport
Earley, Ruth A.	780 Howard Ave.	New Haven
Golding, Mildred I.	Lawrence & Mem'l Asso. Hosp's	New London
Hunt, Alice M.	New Haven Hospital	New Haven
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Kloss, Mrs. Alice N.***	Newfield Road	Torrington
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O'Donnell, Ann Rita	370 Collins St.	Hartford
Perry, Mrs. Helen	Bridgeport Hospital	Bridgeport
Powers, Annie E.***	370 Collins St.	Hartford
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Smyser, A. Pauline	Bristol Hospital	Bristol
Sopko, Theresa	Mt. Sinai Hospital	Hartford
Stover, Ethel	Bridgeport Hospital	Bridgeport
Strayer, Mary C.	Greenwich Hospital	Greenwich
Tamm, Helene	40 Seminary St.	New Canaan
Vezina, Clara A.	Bridgeport Hospital	Bridgeport
Witmyre, Mrs. Mildred W.	Bristol Hospital	Bristol

DELAWARE

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McCool, M. Vivian	Wilmington General Hospital	Wilmington
Taglieber, Mabel	St. Frances Hospital	Wilmington

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Kenny, Florence	St. Francis Hospital	Miami Beach
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Muren, Mrs. Frances R.	937—10th St., N.	St. Petersburg
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Regan, Jean C.	Pensacola Hospital	Pensacola
Rilea, Frances	Florida San. & Hospital	Orlando
Stroud, Mae	St. Vincent's Hospital 2520 St. John's Ave.	Jacksonville
Vance, Ina B.	Alachua County Hospital	Gainesville
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Wilbanks, Mary C.	Pensacola Hospital	Pensacola
Yoakam, Myrtle L.***	1836 Biarritz Drive	Miami Beach

GEORGIA

Belcher, Lexie	Grady Hospital	Atlanta
Benteen, Anita Casanova	Warm Springs Foundation	Warm Springs
Bresnahan, Mary C.	Central of Georgia Ry. Hospital	Savannah
Burdette, Agnes	Middle Georgia Hospital	Macon
Burns, Mrs. Estelle	Route No. 2, 697 La Vista Road	Decatur
Carnes, Rhea	Archbold Memorial Hospital	Thomasville
Carter, Hazel	Grady Hospital	Atlanta
Clark, Mrs. Beata	St. Joseph's Infirmary	Atlanta
Dasher, Annie Laurie	202 E. Liberty St.	Savannah
Davis, Mrs. Effie	Patterson Hospital	Cuthbert
Eagan, Mrs. Pierina	Vereen Hospital	Moultrie
Elliott, Cornelia	Grady Hospital	Atlanta
Eull, Mrs. Myrtle Rogers	Georgia Baptist Hospital	Atlanta
Grubbs, Mary A.	Douglas Hospital	Douglas
Hewes, Caroline	Macon Hospital	Macon
Hollum, Annie L.	Columbus City Hospital	Columbus
Ivey, Mrs. Norma	198 Ponce de Leon Ave., N. E.	Atlanta
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King, Mrs. Mary McCord	210 Benson St.	Decatur
Knight, Ethel	Route 3	Macon

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Miller, Brownlee	Henrietta Egleston Hospital	Atlanta
Myren, Gertrude E.	Strickland Hospital	Griffin
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Rowzee, Theo Lanier	1120 Doctors Bldg.	Atlanta
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Schier, Alpha E.**	St. Joseph's Infirmary	Atlanta
Sheppard, A. Dorothea	Georgia Baptist Hospital	Atlanta
Stott, Mabel S.	Station Hospital	Ft. McPherson
Tebo, Mrs. Ruth Davison	Grady Hospital	Atlanta
Thompson, Ellie	Huey Hospital	Homerville
Vickers, Leola	Grady Hospital	Atlanta
Warman, Halo Harris*	Emory University Hospital	Emory University
Weaver, Mrs. Estelle	Baptist Hospital	Atlanta
Wells, Louise	Archbold Memorial Hospital	Thomasville
Williams, Lucille	Central of Georgia Ry. Hospital	Savannah

IDAHO

Butler, Selma J.	Box 129	Cottonwood
Davis, Mary E.	Box 1287	Pocatello
Fife, Marie C.	Gritman Hospital	Moscow
Henggeler, Martha M.	917½ Fort St.	Boise
Meyer, Marie	415 Jefferson St.	Boise
Quinn, Mrs. Virginia	Twin Falls General Hospital	Twin Falls
Sister M. Felicitas	St. Valentine's Hospital	Wendell
Sister M. Helen	Our Lady of Consolation Hosp.	Cottonwood
Sister Joseph Arthur	Providence Hospital	Wallace
Wangsgard, Helen	L. D. S. Hospital	Idaho Falls

ILLINOIS

Ahlson, M. Elynor	Evangelical Hospital	Chicago
Allen, Lulu Clara	Box 567	Evanston
Anderson, Ethel	5145 N. California Ave.	Chicago
Arns, Irene	2400 S. Dearborn St .	Chicago
Astling, Mrs. Minnie	R. R. 2	Sycamore
Aultz, Margaret A.	1536 N. Claremont Ave.	Chicago
Bahl, Marie H.	2537 Prairie Ave.	Chicago
Baines, Julia T.	1422 Sedgwick St.	Chicago
Baker, Gayle S.	2816 Ellis Ave.	Chicago
Baker, Mrs. Marjorie	2026 N. Burling	Chicago
Baumgartner, Lottie M.	West Suburban Hospital	Oak Park
Beahan, Elizabeth A.	West Suburban Hospital	Oak Park
Behrens, Mrs. Angeline	3813 Washington Blvd.	Chicago
Bennett, Mrs. Dorothy	Belmont Hospital	Chicago
Berg, Anna B.	Community Hospital	Geneva
Brechtel, Ida M.	Deaconess Hospital	Freeport
Breitenfeld, Mrs. Mary F.	4837 Addison St.	Chicago
Brooks, Mary	Berwyn Hospital	Berwyn
Burke, Ursula M.	Evanston Hospital	Evanston
Cameron, Mrs. Mae B.	Ravenswood Hospital	Chicago
Carkhuff, Alice Mitchell	Dixon Public Hospital	Dixon
Clardy, Grace I.	3821 W. Washington Blvd.	Chicago
Clough, Mrs. Corrine	Lutheran Deaconess Hospital	Chicago
Coupland, Margaret	Methodist Hospital	Peoria

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Crane, Mrs. Katherine***	1912 E. Spruce St.	Springfield
Crowley, Mechtildes C.	St. Francis Hospital	Peoria
Czyzycki, Catherine C.	6060 S. Drexel Ave.	Chicago
Day, Dorothy L.	Pekin Public Hospital	Pekin
Dickison, Emma B.	4910 W. Jackson Blvd.	Chicago
Diediker, Matilda	3249 Potomac Ave.	Chicago
Diveley, Mary V.	2030 N. Lowber St.	Decatur
Dickson, Mrs. Josephine	211 E. Broadway	Alton
Donahue, Mary Catherine	St. Mary's Hospital	Galesburg
Dorum, Thelma	St. Joseph Hospital	Chicago
Douthit, Sybil R.	Morris Hospital	Morris
Downham, Sarah Jane	Mother Cabrini Hospital	Chicago
Drew, Emma Maud	Edgewater Hospital	Chicago
Dulewich, Melvina V.	Holy Cross Hospital	Chicago
Duray, Mary	2750 W. 15th Place	Chicago
Egleston, Ada M.	American Hospital	Chicago
Elbert, Bernice	St. Mary's Hospital	Kankakee
Elliott, Marie C.	St. Joseph Hospital	Chicago
Estry, Mabel M.	So. Chicago Community Hosp.	Chicago
Falconer, Geneva B.	St. John's Maternity Hospital	Springfield
Ford, Lauda Stein	Augustana Hospital	Chicago
Fossum, Alma	1138 N. Leavitt St.	Chicago
Gandy, Nell	St. Joseph Hospital	Alton
Ganzbuhl, Margaret	St. Anthony's Hospital	Chicago
Girkin, Nettie R.	Michael Reese Hospital	Chicago
Goodman, Mrs. Nellie C.	Decatur & Macon Co. Hospital	Decatur
Gregory, Caroline C.	1214 14th St.	Waukegan
Grigsby, Lillian B.	St. Francis Hospital	Peoria
Gruska, Hermina E.	Jackson Park Hospital	Chicago
Halm, Vincentia G.	Sherman Hospital	Elgin
Hansen, Elizabeth T.	939 N. LaSalle St.	Chicago
Hansing, Bertha	600 Franklin St.	Galena
Hard, Mabel D.	Jackson Park Hospital	Chicago
Hellickson, Helga C.	Ravenswood Hospital	Chicago
Hemmig, Emilie	5421 W. Potomac St.	Chicago
Hickey, Mary C.	South Shore Hospital	Chicago
Hoffman, Gladys Mary**	Englewood Hospital	Chicago
Holmes, Edith H.	1044 N. Francisco Ave.	Chicago
Holwell, Mary M.	6915 So. Winchester St.	Chicago
Johnson, Mrs. Anna B.***	1703 W. 103rd St., Beverly Hills	Chicago
Kasten, Mary C.	St. Anne's Hospital	Chicago
Kelly, Margaret W.	2548 Lakeview Ave.	Chicago
Kelley, Winifred	St. Luke's Hospital	Chicago
Kraus, Paula	St. Francis Hospital	Blue Island
Krawczyk, Anna A.	Woodlawn Hospital	Chicago
Kuhn, Pauline	Little Co. of Mary Hospital	Evergreen Park
Lazarski, Elizabeth		Melrose Park
Lebkuecher, Ethel M.	Decatur & Macon Co. Hospital	Decatur
Lee, Agnes J.	1044 N. Francisco Ave.	Chicago
Lee, Florence Louise	432 S. Grand Ave., W.	Springfield
Leidel, Leeta	Wabash Hospital	Decatur
Lemmons, Geneva	850 Irving Park Blvd.	Chicago
Lenihan, Julia	645 So. Central Ave.	Chicago
Lewis, Hattie M.	St. John's Hospital	Springfield
Lindsey, Mrs. Grace V.***	221 N. Glen Oak	Peoria
Loehrke, Amelia J.	427 Dickens Ave.	Chicago
Lundahl, Mrs. Myrtle E.	46 E. 110th Place	Chicago
Lyman, Marie E.	St. John's Hospital	Springfield

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McCall, Catherine	645 S. Central Ave.	Chicago
McCreary, Opal E.	Little Co. of Mary Hospital	Evergreen Park
McDermott, Esther L.	Evanston Hospital	Evanston
McGraw, Mary R.	Oak Park Hospital	Oak Park
McGuire, Mary Russel	Alton Memorial Hospital	Alton
Mah, Margaret Toy	3557 N. Southport Ave.	Chicago
Mahoney, Alice I.	5733 So. Wood St.	Chicago
Mahoney, Betty	St. Francis Hospital	Evanston
Maisnik, Shirley	St. Luke's Hospital	Chicago
Mandehr, Emma***	Alice Home Hospital	Lake Forest
Marchioni, Linda M.	Victory Memorial Hospital	Waukegan
Martin, Alice	915 Wilson Ave.	Chicago
Maruska, Regina H.	4542 N. Winchester Ave.	Chicago
Metzke, Angeline	Silver Cross Hospital	Joliet
Miller, Mrs. Ada	St. Joseph Mercy Hospital	Aurora
Miller, Hazel	Martha Washington Hospital	Chicago
Modaff, Louise	Chicago Memorial Hospital	Chicago
Murray, Edna M.	800 E. Washington St.	Joliet
Myers, Leone M.	Ravenswood Hospital	Chicago
Myres, Wanda M.	Southtown Hospital	Chicago
Myrseth, Gudrun	Ingall's Memorial Hospital	Harvey
Newman, Blanche	Illinois Central Hospital	Chicago
Newton, Mary Margaret	Evanston Hospital	Evanston
Niccoli, Marie	St. Anne's Hospital	Chicago
Nichol, Mabel	530 W. Arlington Place	Chicago
Nordwall, Frieda	Swedish Covenant Hospital	Chicago
Norred, Annice E.	Elmhurst Community Hospital	Elmhurst
Nugent, Agnes L.	1442 W. Cuyler St.	Chicago
O'Day, Exire	Ravenswood Hospital	Chicago
O'Leary, Helen E.	Passavant Hospital	Chicago
Olson, Anna M.	551 Grant Place	Chicago
Peterson, Hilma	Lake Co. Sanatorium	Waukegan
Petersen, Margaret	6001 S. Green St.	Chicago
Pippereit, Martha A.	Chicago Memorial Hospital	Chicago
Pittman, Naomi R.	St. Joseph Hospital	Alton
Priester, Ann	West Suburban Hospital	Oak Park
Proudfit, Mrs. Harriet O.	Woodstock Hospital	Woodstock
Purcell, Ethel M.	St. Bernards Hospital	Chicago
Raphael, Marian A.	6319 S. California Ave.	Chicago
Reed, Martha	Springfield Hospital	Springfield
Render, Gertrude	Alton Memorial Hospital	Alton
Reimer, Irma A.	536 Webster Ave.	Chicago
Riegel, Mrs. Bertha	126 S. Eastern Ave.	Joliet
Riegel, Esther	1116 N. Kedzie Ave.	Chicago
Riley, Alice M.	427 Dickens Ave.	Chicago
Rinella, Edris P.	Illinois Central Hospital	Chicago
Ronn, Anna M.	Passavant Hospital	Chicago
Roth. Jean	Mercy Hospital	Chicago
Ruggles, Esther	1113 Madison St.	Oak Park
Sister Adolpha Ray	St. Anthony Hospital	Effingham
Sr. M. Ambrose Tamosaitis	2700 W. 69th St.	Chicago
Sister Andrea Weisgerber	St. Elizabeth Hospital	Belleville
Sr. Angilb'ta Schellenberger	St. Theresa Hospital	Waukegan
Sister Annunciata Maas	St. Clara's Hospital	Lincoln
Sister M. Antonella Rauch	St. Joseph's Hospital	Joliet
Sister M. Antonita Walloch	St. Joseph's Hospital	Joliet
Sister M. Bernadette Frech	St. Joseph's Hospital	Joliet
Sister Bernadine Shaudis	St. John's Hospital	Springfield

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Sr. M. Borromea Supplicka	St. Francis Hospital	Peoria
Sister Capistrana Hyla	St. John's Hospital	Springfield
Sister M. Caroline Zirkel	St. Charles Hospital	Aurora
Sister M. Cleta Mehn	St. Elizabeth's Hospital	Granite City
Sr. M. Conradine Berwarth	St. Anthony's Hospital	Chicago
Sr. M. Cyprian Garczynska	1120 N. Leavitt St.	Chicago
Sr. M. Dobromila Janiszczak	1120 Nt. Leavitt St.	Chicago
Sister M. Dorothea	St. Anne's Hospital	Chicago
Sister M. Gordiana Schiffer	St. Mary Hospital	La Salle
Sister M. Heribert Nowak	St. Francis Hospital	Freeport
Sister M. Hortense Makstutis	St. Joseph's Hospital	Joliet
Sister Hyacinth	St. Vincent's Hospital	Taylorville
Sister M. Irma Graf	St. Elizabeth Hospital	Danville
Sr. M. Irmengard Cassellius	St. Joseph's Hospital	Joliet
Sister Isadore	St. John's Hospital	Springfield
Sister Johanelle Woityna	St. John's Hospital	Springfield
Sister Jean Sudkamp	St. Elizabeth's Hospital	Belleville
Sister Joanita Toennies	St. Vincent's Hospital	Taylorville
Sister M. Josephine	St. Mary's Hospital	Kankakee
Sister Jovita Schumann	St. Joseph's Hospital	Joliet
Sister M. Kunigunda Flentz	St. Mary's Hospital	La Salle
Sister M. Leo Lang	Little Company of Mary Hosp.	Evergreen Park
Sister Licine	St. John's Hospital	Springfield
Sister M. Liliose	St. Mary's Hospital	Centralia
Sr. M. Lillian D'Autremont	John B. Murphy Hospital	Chicago
Sister M. Louise Odenthal	St. Joseph's Hospital	Joliet
Sister M. Loyola Panter	St. Francis Hospital	Freeport
Mother Magd. Wiedlocher***	St. Francis Convent	Riverton
Sister Marianna Cassellius	St. Charles Hospital	Aurora
Sister Materna Boronowski	St. Francis Hospital	Litchfield
Sister M. Mildred Sauer	St. Joseph's Hospital	Elgin
Sister Odilard Sylvester	Lewis Mem'l Maternity Hosp.	Chicago
Sr. M. Oswalda Wiederkehr	St. Joseph's Hospital	Elgin
Sr. M. Prosperia Holtgrave	1431 N. Claremont Ave.	Chicago
Sister M. Raymonda Hoefler	St. Anthony Hospital	Rockford
Sister Regula	St. John's Hospital	Springfield
Sister Reinbertha	St. John's Hospital	Springfield
Sister Rudolpha	St. John's Hospital	Springfield
Sister St. Henry***	Oak Park Hospital	Oak Park
Sister M. Theresa Ettelbrick	St. Anthony de Padua Hospital	Chicago
Sister M. Viola	St. Francis Hospital	Freeport
Sr. M. Virginia Clare Regan	St. Joseph Hospital	Elgin
Schobert, Helen R.	Berwyn Hospital	Berwyn
Schumacher, Mildred A.	Springfield Hospital	Springfield
Schulz, Margarete	Elmhurst Community Hospital	Elmhurst
Sed. Julia	St. Anthony Hospital	Chicago
Shortell, Mrs. Mary B.***	9107 S. Loomis St.	Chicago
Sidel, Ollie	355 Ridge Ave.	Evanston
Slater, Helena	1520 S. Michigan Ave.	Chicago
Smith, Lucille H.	5421 S. Morgan	Chicago
Sousa, Mrs. Anna M.	899 Nelson St.	Chicago
Speers, Helen M.	536 Webster St.	Chicago
Stankiewicz, Helen M.	904 W. Adams St.	Chicago
Steinman, Mrs. J. O'Connor	Victory Memorial Hospital	Waukegan
Stenstrom, Naomi S.	South Shore Hospital	Chicago
Stephens, Mrs. Edna M.	351 St. Charles St.	Elgin
Stitzer, Dorothy E.	699 E. Deerpath	Lake Forest
Stoltz, Frieda L.	1517 S. Michigan Ave.	Chicago

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Sulis, Gladys H.	Proctor Hospital	Peoria
Suttle, Ethel M.	635 S. Johnson St.	Macomb
Taylor, Hazel	Henrotin Hospital	Chicago
Terry, Anna M.	West Suburban Hospital	Oak Park
Teubel, Pauline E.	West Suburban Hospital	Oak Park
Thom, Audrey R.	Copley Hospital	Aurora
Turner, Cora Belle	4331 N. Sacremento St.	Chicago
Tyler, Dorothy	St. Luke's Hospital	Chicago
Vincent, Nelle G.*	Evanston Hospital	Evanston
Welinske, Matilda Ann	2537 Prairie Ave.	Chicago
Whitford, Mrs. Mae L.	Collins Clinic, 427 Jefferson Bldg.	Peoria
Whitney, Madge***	2561 Cullom Ave.	Chicago
Willenborg, Anna	18 E. Division St.	Chicago
Willenborg, Myrna	St. Luke's Hospital	Chicago
Wilson, Ruth	1804 W. Congress St.	Chicago
Withrow, Emalie	Iroquois Hospital	Watseka
Woolsey, Mrs. Ora E.	1322 Lafayette St.	Beardstown
Wright, Ruth	843 S. 16th Ave.	Maywood
Zech, Elizabeth D.	Evanston Hospital	Evanston
Zenz, Bernadine M.	2537 Prairie Ave.	Chicago
Zwick, Mary A.	Evanston Hospital	Evanston

INDIANA

Axel, Wilma Jo	540 Tyler St.	Gary
Benn, M. Pauline	St. Joseph's Hospital	Ft. Wayne
Church, Mrs. Margaret P.	1016 Garden St.	Ft. Wayne
Deane, Thelma A.*	130 W. Miami Ave.	Logansport
Efinger, Irene H.	319 W. Louisiana	Evansville
Fox, Mrs. Nellie Monroe***	127 S. Buckeye St.	Kokomo
Guckian, Helen Kathleen	St. Mary's Hospital	Evansville
Hane, Ruth Hagen	709 Kinnaird Ave.	Ft. Wayne
Kibbey, Mary Olive	R. R. No. 2	Fairmount
Kirschner, Regina R.	Marion General Hospital	Marion
Lange, Agnes M.**	326 Arcadia Court	Ft. Wayne
Myers, Mrs. Fern Like	R. R. No. 2	Wheatland
Prince, Susan C.	Ball Memorial Hospital	Muncie
Reitz, Helen M.	319 W. Louisiana	Evansville
Teal, Mrs. Bernice R.	209 E. 19th St. (temporary)	Auburn
Vonderau, Anna	2902 S. Fairfield	Ft. Wayne
Warnock, Inez	110 N. Cherry St.	Muncie

IOWA

Abraham, Sylvia C.**	Mercy Hospital	Council Bluffs
Barrett, Ella	Mercy Hospital	Mason City
Bleich, Mrs. Frieda M.	314—1st, N. W.	Hampton
Brandt, Alma M.	Deaconess Hospital	Marshalltown
Costello, Marie	310 Davidson Bldg.	Sioux City
Culp, Mary Arnold	1815—6th Ave.	Des Moines
Donn, J. Irene	2906 Douglas St.	Sioux City
Ewer, Bertha A. L.	401 Security Bldg.	Sioux City
Felber, Marie	University Hospital	Iowa City
Holmdel, Irma J.	2017 Ingleside Ave.	Sioux City
Kiely, Ruth G.	612 N. 12th	Melrose Park, Ill. (temporary)
Klein, Grace	Memorial Hospital	Mt. Pleasant
Krogstad, Lorna A.		Osage
Kuchel, Wilma D.	Mercy Hospital	Council Bluffs
Meyer, Marian L.	St. Joseph's Mercy Hospital	Mason City
Parrish, Mae A.	St. Joseph's Mercy Hospital	Dubuque

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Pfauser, Chrystine H.	Jennie Edmundson Mem'l Hosp.	Council Bluffs
Puth, Mary G.	St. Joseph's Mercy Hospital	Fort Dodge
Robertson, Blanche	Washington Hospital	Washington
Robinson, Lulu V.	1319 N. Wapello	Ottumwa
Robson, Marie K.***	308 Toy Nat'l Bank Bldg.	Sioux City
Sister M. Andriella Mateju	St. Anthony Hospital	Carroll
Sister M. Francella Dunton	Mercy Hospital	Burlington
Sister M. Margaret Mary Kane	St. Joseph's Mercy Hospital	Sioux City
Sister M. Natalie Senecal	St. Joseph's Mercy Hospital	Centerville
Sister M. Pauline Hammes*	Mercy Hospital	Des Moines
Schwarting, Louise E.	Kenyon Road	Fort Dodge
Shanley, Gertrude M.	2016 Iowa St.	Davenport
Smith, Ethel	517 High Ave., E.	Oskaloosa
Sven, Myrtle E.	Lutheran Hospital	Fort Dodge
Thompson, Helen M.	212-214 Tucker Bldg.	Clinton
KANSAS		
Baker, Viola H.	Wesley Hospital	Wichita
Clark, Mildred I.	327 Pope Ave.	Ft. Leavenworth
Hammann, Zella	McPherson Co. Hospital	McPherson
Mikkola, Senia I.	Wesley Hospital	Wichita
Murray, Cora B.	1101-07 Sixth St.	Dodge City
O'Neill, Mrs. Elizabeth B.	P. O. Box 574	Dodge City
Paul, Mrs. Ethel S.	Wesley Hospital	Wichita
Peterson, Mrs. Lavida***		Miller
Pettit, Alice H.	Bethany Hospital	Kansas City
Risser, Ella	Bethel Deaconess Hospital	Newton
Thompson, Velma V.	Randell Hospital	Marysville
West, Wanda G.	111 W. 10th St.	Concordia
KENTUCKY		
Bloom, Estelle	822 Heyburn Bldg.	Louisville
Bowyer, Mrs. E. W.	c/o Mrs. W. S. Helen Upper River Road	Louisville
Caldwell, Mrs. Thelma	c/o Dr. Wm. Shell	Covington
Duncan, Mrs. Davida G.***		Columbia
Haverkamp, Etta***	217 Van Voast Ave.	Bellevue
Huhn, Lulu Mae	St. Joseph Hospital	Lexington
Kissling, Bertha A.		Pikeville
Richards, Alice	Lexington Clinic	Lexington
Salt, Susan R.***	641 Park Ave.	Newport
Smith, Tommie	1110 Francis Bldg.	Louisville
LOUISIANA		
Beach, Emma B.	631 Springhill St.	Shreveport
Coco, Mrs. Evelyn Hurff**	3435 Louisiana Parkway	New Orleans
Duncan, Dorothy S.	Highland Sanitarium	Shreveport
Duarte, Mrs. Antoinette A.	Hotel Dieu	New Orleans
Engum, Eletta	Charity Hospital	New Orleans
Epsky, Irene	Charity Hospital	New Orleans
Estelle, Daisy B.	217 So. Robertson	New Orleans
Forsman, Rosalie M.	St. Francis Sanitarium	Monroe
Fusilier, Mary B.	Charity Hospital	New Orleans
Gebs, Lillian M.	Charity Hospital	New Orleans
Graves, Mrs. Katie A.	908 Federal Ave.	Morgan City
Grillet, Agnes	628 Fern St.	New Orleans
Grillet, Stella	628 Fern St.	New Orleans
Grissette, Maida M.	Bastrop General Hospital	Bastrop

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Guillory, Ida B.	109½ Harrison St.	Pineville
Karrigan, Mrs. Catherine G.	7821 Hampson St.	New Orleans
Kling, O. Rowene	632 Maison Blanche Bldg.	New Orleans
Koenig, Mary E.*	Charity Hospital	New Orleans
Loe, Mrs. A.	Mansfield Sanitarium	Mansfield
McLeod, Lurline	Port Sulphur Hospital	Port Sulphur
McMahon, Ellen M.	2220 Constance St.	New Orleans
Manent, Jeanne R.	1124 Maison Blanche Bldg.	New Orleans
Moore, Lettie H.	3402 Youree Drive	Shreveport
Myers, Esther	Charity Hospital	New Orleans
Nock, Anne E.	Charity Hospital	New Orleans
O'Connor, Mrs. Inez E.	Eye, Ear, Nose & Throat Hosp.	New Orleans
O'Donnell, Mrs. Lillian	609 First East St.	Haynesville
Owen, Mrs. Sam	State Charity Hospital	Shreveport
Pagnac, Mrs. Eunice A.	1413 Union Bldg.	New Orleans
Pellessier, Lena	3336 Tulane Ave.	New Orleans
Peterman, Philomena M.	Route 1, Box 260	Alexandria
Price, Margaret A.	4502 Prytania St.	New Orleans
Purcell, Sylvia F.	940 Margaret Place	Shreveport
Sister M. Aubierge Younge	St. Francis Sanitarium	Monroe
Sawyer, Ola E.	Minden Sanitarium	Minden
Seeberg, Molly L.	U. S. Marine Hospital	New Orleans
Sim, Mary	Hotel Dieu	New Orleans
Smith, Mary Fr.	Hotel Dieu	New Orleans
Sullivan, Rosalie G.	415 Codifer Ave.	New Orleans
Trimble, Ethel	Highland Sanitarium	Shreveport
Watford, Leslie	French Hospital	New Orleans
Wever, Mertice M.	1539—4th St.	New Orleans
Word, Mattie T.	1410 St. Andrew St.	New Orleans
Yancey, Mrs. Lydia	Charity Hospital	New Orleans

MAINE

Chaney, Mrs. Ardell M.	Children's Hospital	Portland
Craig, Ruth H.	Eastern Maine General Hospital	Bangor
Decker, Ann M.	Maine General Hospital	Portland
Greene, Gretchen V.	Eastern Maine General Hospital	Bangor
Jacobsen, Mrs. Lona G.	Mt. Desert Island Hospital	Bar Harbor
Kelly, Ida B.	Maine General Hospital	Portland
Moore, Greta	Eastern Maine General Hospital	Bangor
Roy, Lillian B.	Maine General Hospital	Portland
Whitney, Velma J.	Franklin Co. Memorial Hospital	Farmington

MARYLAND

Argus, Clara	831 N. Washington St.	Baltimore
Berger, Olive L.	Johns Hopkins Hospital	Baltimore
Black, Mrs. Constance***	So. Baltimore General Hospital	Baltimore
Blades, Caroline E.	Peninsula General Hospital	Salisbury
Carl, Dorothy M.***	4309 Chatham Road	Baltimore
De Lone, Florence A.	Emergency Hospital	Annapolis
Dolan, Helen M.	613 N. Washington St.	Baltimore
Elliott, Ruth S.	University of Maryland	Baltimore
Hammond, Mrs. Alyce M.	P. O. Box 166	Centreville
Hoyt, Margaret L.	Washington Sanitarium & Hosp.	Takoma Park
Kavanagh, Mary T.	St. Joseph's Hospital	Baltimore
Mauk, Martha E.	229 Union St.	Cumberland
O'Brien, Mary J.	Univ. of Maryland Hospital	Baltimore
Owings, Frances V. N.	Johns Hopkins Hospital	Baltimore
Richtman, Olive	Johns Hopkins Hospital	Baltimore

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Smith, Grace L.	515 N. Wolfe St.	Baltimore
Snyder, Anna M.	Allegany Hospital	Cumberland
South, Genevieve A.	Sinai Hospital	Baltimore
Turtscher, Iva A.	Johns Hopkins Hospital	Baltimore
Tyler, Amelia L.	Peninsula General Hospital	Salisbury
White, M. Adelaide	Johns Hopkins Hospital	Baltimore
Zerhusen, Ann L.	6 East Read St.	Baltimore

MASSACHUSETTS

Albright, Alta M.	St. Luke's Hospital	New Bedford
Bliss, Jessie M.	Quincy City Hospital	Quincy
Bond, Mrs. Helen L.***	c/o Mass. State Infirmary	Tewksbury
Boyer, Dorothy R.	Memorial Hospital	Worcester
Bralley, Belva B.	St. Luke's Hospital	New Bedford
Carter, Ruth R.	84 Oak St.	Fall River
Chase, Mrs. Evelyn	20 Trenton St.	Melrose
Clough, Dorothy A.	House of Mercy Hospital	Pittsfield
Cronin, Mrs. Catherine C.	438 Highland Ave.	Malden
Edstrom, Mrs. Anna N.***	18 Banks St.	Belmont
Farrell, Elizabeth R.	Massachusetts General Hospital	Boston
Gerrard, Gertrude M.	Peter Bent Brigham Hospital	Boston
Haigwood, Hattie B.	U. S. Marine Hospital	Chelsea
Hodgins, Agatha C. Honorary President American Association of Nurse Anesthetists	Bridge St.	Chatham
Hunt, Christine M.	House of Mercy Hospital	Pittsfield
Kirby, Mrs. Matilda F.***	Russell's Mills Road	North Dartmouth
Lank, Betty E.	Children's Hospital	Boston
MacArthur, Mrs. Kath. E.	Salem Hospital	Salem
McCracken, Gladys	Massachusetts Gen'l Hospital	Boston
Macfadden, Shamah N.	Leominster Hospital	Leominster
McGehee, Nancy G.	Memorial Hospital	Worcester
MacRae, Elizabeth F.	Peter Bent Brigham Hospital	Boston
Palmer, Patricia E.	3417 N. Main St.	Fall River
Pupchik, Aksenia	Waltham Hospital	Waltham
Ramsey, Gladys E.	7 High St.	Whitinsville
Reynolds, Mrs. Dilys A.	Harrington Memorial Hospital	Southbridge
Richardson, Virginia L.	10 Bennett St.	Beverly
Riefel, Helen G.	Peter Bent Bingham Hospital	Boston
Sister M. Agnes	St. Vincent Hospital	Worcester
Sister M. Angelica	St. Vincent Hospital	Worcester
Sister M. Angeline	Mercy Hospital	Springfield
Sister Mary Ann	St. Luke's Hospital	Pittsfield
Sister M. Anthony	St. Vincent's Hospital	Worcester
Sister M. Armand	St. Vincent's Hospital	Worcester
Sister M. Assisi	St. Vincent's Hospital	Worcester
Sister M. Benedicta	St. Vincent's Hospital	Worcester
Sister Bernardina	St. Vincent's Hospital	Worcester
Sister M. Camilla	St. Luke's Hospital	Pittsfield
Sister M. of Divine Infant	Mercy Hospital	Springfield
Sister Mary Ellen	Mercy Hospital	Springfield
Sister M. Felicitas	Farren Memorial Hospital	Montague City
Sister M. George	St. Vincent's Hospital	Worcester
Sister M. Ignatius	St. Vincent's Hospital	Worcester
Sister M. Incarnatus	Providence Mother House	Holyoke
Sister M. Laurentine	St. Luke's Hospital	Pittsfield
Sister M. Laurence Justinian	Mercy Hospital	Springfield
Sister M. Leocadia	Mercy Hospital	Springfield

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Sister M. Loreto	St. Vincent's Hospital	Worcester
Sister M. Loyola	Mercy Hospital	Springfield
Sister M. Norbert	St. Vincent's Hospital	Worcester
Sister M. Philip Benizi	Providence Hospital	Holyoke
Sister M. of Seven Dolors	Providence Mother House	Holyoke
Sister M. Seraphia	St. Luke's Hospital	Pittsfield
Sister Mary of Victory	Providence Hospital	Holyoke
Smith, Marion	Newton Hospital	Newton Lower F'lls
Stevens, Louise A.	219 Clark Road	Brookline
Sutliff, Dorothy S.	Lowell General Hospital	Lowell
Sword, Esther	Shriners Hospital	Springfield
White Isabella W.	Malden Hospital	Malden
Wilson, Mrs. Jeanie L.	112 Hampton St.	Auburn
White, Marjorie A.	House of Mercy Hospital	Pittsfield
Young, Mary J.	Lowell General Hospital	Lowell

MICHIGAN

Allison, Clara E.	Community Hospital	Battle Creek
Aubrey, Anna E.	Receiving Hospital	Detroit
Baird, Lillian G.	University Hospital	Ann Arbor
Barhite, Opal	General Hospital	Bay City
Barron, Loretta	Lelia Y. Post Hospital	Battle Creek
Becker, Dora	Butterworth Hospital	Grand Rapids
Bell, Doris E.	Woman's Hospital	Detroit
Bilyea, Clara M.	Ford Hospital	Detroit
Black, Hazel	55 Sprague St.	Coldwater
Blakley, Sarah I.	Children's Hospital	Detroit
Bradbury, Nelle	Cottage Hospital	Grosse Pointe
Coles, Margaret M.	12747 Wade Ave.	Detroit
Costello, Josephine Z.	1415 Parker Ave.	Detroit
Cote, Angela B.	1298—4th St.	Muskegon
Courtney, Mabel E.*	235 E. Alexanderine St.	Detroit
Crawford, Alethea M.	Blodgett Memorial Hospital	Grand Rapids
Crosby, Alice C.	Foote Memorial Hospital	Jackson
Currie, Laurel M.	Mt. Carmel Mercy Hospital	Detroit
Deeks, Dorothy	3740 John R St.	Detroit
Derks, Elizabeth	Mercy Hospital	Jackson
Drobnek, Helen C.	Mercy Hospital	Benton Harbor
Dudewicz, Helen	2903 S. Jefferson St.	Saginaw
Eckhart, Carmen	Redford Receiving Hospital	Redford
Eplett, Dell	803 Hazelwood Ave.	Detroit
Esper, Agnes	Harper Hospital	Detroit
Fleming, Bridget A.	216 Graham St.	Saginaw
Fletcher, Mary J.	Receiving Hospital	Detroit
Galbraith, A. Maude	212 Antisdel Place, N. E.	Grand Rapids
Greene, Thelma	858 Wyandotte St.	Windsor, Ont.
Greenway, Emma	Receiving Hospital	Detroit
Gribble, Mrs. Lenore E.	7368 Poe Ave.	Detroit
Goense, Joan	St. Joseph's Mercy Hospital	Flint
Golnick, Meta	Hurley Hospital	Flint
Hain, Alice L.	3245 E. Jefferson Ave.	Detroit
Hall, Madeline	Clinton Memorial Hospital	St. Johns
Hartley, Ora M.	Beyer Memorial Hospital	Ypsilanti
Hazzard, Mrs. Mary M.	Gerber Memorial Hospital	Fremont
Heaston, Mary E.	702 Collegewood Ave.	Ypsilanti
Hendricks, Esther M.	Harper Hospital	Detroit
Hill, Harriet L.	Wyandotte General Hospital	Wyandotte
Hill, Maude	81 Franklin St.	Houghton
Hopkins, Mrs. Ida M.	8321 Grand River	Detroit

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Howard, Florence C.	Woman's Hospital	Detroit
Huebner, Emma M.	St. Luke's Hospital	Marquette
Huffmann, Anna	Delray General Hospital	Delray
Ilgenfritz, Esther L.	St. Joseph Mercy Hospital	Detroit
Kempton, Christine B.	Florence Crittenton Hospital	Detroit
Kinlock, Dorothy C.	Receiving Hospital	Detroit
Koontz, Geneva C.	Hurley Hospital	Flint
Krewson, Josephine E.	Mercy Hospital	Muskegon
Lane, Maud	Foote Memorial Hospital	Jackson
Lenze, Gladys L.	Florence Crittenton Hospital	Detroit
Leuzinger, Mrs. Dorothy	317 Glendale Ave.	Highland Park
Long, Florence H.	Saginaw General Hospital	Saginaw
McClintock, Mary E.	Mercy Hospital	Cadillac
McGarrey, Mary E.	Mercy Hospital	Bay City
McKnight, Mary T.	Saginaw General Hospital	Saginaw
McNally, Hilda	Providence Hospital	Detroit
McWhertor, Mrs. Alice S.	Wyandotte General Hospital	Wyandotte
Madigan, Josephine	12094 Findlay Ave.	Detroit
Marion, Marion M.	Children's Hospital	Detroit
Martin, Mrs. Mary S.	218 Ferris St.	Ypsilanti
Mason, Esther R.	Blodgett Memorial Hospital	Grand Rapids
Masselink, Mrs. Lucy B.		McBain
Meil, Esther J.	917 W. Euclid Ave.	Detroit
Moir, Ethel M.	847 Lothrop Ave.	Detroit
Muse, Eddie	Box A	Ypsilanti
Myers, Gertrude M.	15495 Manor Ave.	Detroit
Olzem, Catherine H.	13043 Camdon Ave.	Detroit
Perry, Irene M.	Lelia Y. Post Hospital	Battle Creek
Perry, Mae A.	Goodrich Hospital	Goodrich
Phelps, Persis M.	Butterworth Hospital	Grand Rapids
Poppen, Irma H.	3245 E. Jefferson Ave.	Detroit
Read, Ruth B.	University Hospital	Ann Arbor
Rusche, Vied M.	16530 Patton	Detroit
Sister M. Alacoque	St. Joseph Hospital	Menominee
Sister M. Alfreda Venner	St. Mary's Hospital	Grand Rapids
Sister M. Aquina Leenders	St. Francis Hospital	Escanaba
Sister Mary Assumpta Carr	St. Joseph Hospital	Detroit
Sister Clara Behnke	Evangelical Deaconess Hospital	Detroit
Sister M. Constance Steffes	Borgess Hospital	Kalamazoo
Sister Eulalie McGivern	Mt. Carmel Hospital	Detroit
Sister Helen Marie Hughes	St. Joseph Hospital	Ann Arbor
Sister M. Henrietta	St. Mary's Hospital	Marquette
Sister Mary John Geierman	St. Joseph Mercy Hospital	Pontiac
Sister M. Stella Kearney	St. Mary's Hospital	Grand Rapids
Sister M. Sylvester Duffy	St. Joseph Mercy Hospital	Mt. Clemens
Sister M. Theodore Kelling	Mercy Hospital	Grayling
Sahl, Margaret	Butterworth Hospital	Grand Rapids
Sajkowski, Michaeline F.	12080 St. Aubin	Detroit
Sams, Goldie Pearl	95 E. Alexanderine Ave.	Detroit
Schoonbeck, Mrs. Bertha S.	Box 165	Plainwell
Sheehan, Elizabeth	Jennings Hospital	Detroit
Sheehan, Kay	St. Joseph Mercy Hospital	Pontiac
Shuff, Frances	Eloise Hospital	Eloise
Simco, Mrs. Josephine	Wyandotte General Hospital	Wyandotte
Singer, Barbara	8323 Townsend Ave.	Detroit
Smith, Mary B.	Receiving Hospital	Detroit
Snider, Ada	Grace Hospital	Detroit
Snyder, Hazel P.	Eloise Hospital	Eloise

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Steehler, Mrs. Elizabeth M.	State Hospital	Pontiac
Stefaniak, Anna B.	Eloise Hospital	Eloise
Sturgeon, R. Kathleen	University Hospital	Ann Arbor
Swartzendruber, Agnes M.	Mercy Hospital	Benton Harbor
Thomas, Nathalie M.	Harper Hospital	Detroit
Tucker, Helen F.	Woman's Hospital	Detroit
Teal, Bernice R.	209 E. 19th St.	Auburn, Ind. (temporary)
Walsh, Jean A.	St. Joseph Mercy Hospital	Pontiac
Weigand, Marian L.	406 W. 11th St.	Traverse City
Wessinger, Ione**	7470 Byron Ave.	Detroit
Weick, Anna	U. S. Marine Hospital	Detroit
Wilkinson, Vera C.	2331 Van Alstyne Blvd.	Wyandotte
Woodcock, Sarah A.	6071 W. Outer Drive	Detroit
Wooliver, Sally A.	Woman's Hospital	Detroit
Zolman, Mrs. Alice V.	R. F. D. No. 2	Pontiac

MINNESOTA

Anderson, Alice L.	Minneapolis General Hospital	Minneapolis
Anderson, Palma A.	Deaconess Hospital	Minneapolis
Baer, Maple A.	St. John's Hospital	St. Paul
Baucum, Fern	St. Mary's Hospital	Minneapolis
Becker, Frieda	Ashton Memorial Hospital	Pipestone
Bergman, Ruth E.	Northwestern Hospital	Minneapolis
Boudreau, Marion E.	Virginia Hospital Commission	Virginia
Crotty, Rosella	Virginia Hospital Commission	Virginia
Cunningham, Helen R.	St. Luke's Hospital	St. Paul
Eyk, Helen E.	Montevideo Hospital	Montevideo
Ferguson, Geraldine V.	Army Nurse Corps	Fort Snelling
Filla, Julia	St. John's Hospital	St. Paul
Gaertner, Mrs. Elizabeth L.	St. Mary's Hospital	Minneapolis
Ginther, Winifred	2724—17th Ave., South	Minneapolis
Grams, Charlotte L.*	Gillette Hospital	St. Paul
Grebstad, Borghild	Northwestern Hospital	Minneapolis
Gregoire, Antoinette B.	St. Andrew's Hospital	Minneapolis
Gronvold, J. Marie	St. Joseph's Hospital	St. Paul
Haug, Camilla	Swedish Hospital	Minneapolis
Hinkly, Elizabeth	Northwestern Hospital	Minneapolis
Hutcheon, Mary Ethel	Winona General Hospital	Winona
Janovich, Mary C.	Charles T. Miller Hospital	St. Paul
Johnson, Anna	Nopeming Sanatorium	Nopeming
Jurgensen, Katherine D.	Swedish Hospital	Minneapolis
Kalstrom, Clarice S.	Milan Hospital	Milan
Kippen, Janet	Asbury Hospital	Minneapolis
Lamberton, Blanche E.	St. Luke's Hospital	Duluth
Layne, Myrtle M.	103—6th Ave., So. West	Rochester
LeJeune, Ruby L.	Mounds Park Hospital	St. Paul
Lemke, Pearl F.	University of Minnesota Hosp.	Minneapolis
Lonergan, Ellen M.	914—8th Street, South	Minneapolis
Longley, Ella K.***	111—7th Ave., North West	Rochester
Lundgaard, Martha B.	3312 Clinton Ave.	Minneapolis
Lyngstad, Charlotte		Holstad
McDonald, Hazel	225—4th Ave., S. W.	Rochester
McQuillen, Florence	Mayo Clinic	Rochester
Mathews, Mildred M.	Abbott Hospital	Minneapolis
Mattson, Sophia H.	Union Hospital	New Ulm
Mechler, Mary	St. Mary's Hospital	Minneapolis
Muhle, Tena	University of Minnesota Hosp.	Minneapolis

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Nelson, Orilla H.	St. Barnabas Hospital	Minneapolis
Nichols, Christine	Swedish Hospital	Minneapolis
Niedermeyer, Hilda	103—6th Ave., South West	Rochester
Nordquist, Mrs. Anna S.	Abbott Hospital	Minneapolis
Perkins, Florence E.	St. Luke's Hospital	Thief River Falls
Petersen, Anna C.	2101 Columbus Ave.	Minneapolis
Peterson, Dorothy L.	St. Luke's Hospital	Duluth
Peterson, Hazel J.	Fairview Hospital	Minneapolis
Peterson, Margaret	Swedish Hospital	Minneapolis
Petrowske, Mrs. Marie	Ancker Hospital	St. Paul
Porter, Gertrude H.	St. Luke's Hospital	St. Paul
Retrum, Sarah A.	Charles T. Miller Hospital	St. Paul
Risse, Mayme J.	St. Luke's Hospital	Fergus Falls
Roadman, Bernice	Asbury Hospital	Minneapolis
Rodenberg, Esther	Gillette Hospital	St. Paul
Root, Mable G.	Minneapolis General Hospital	Minneapolis
Rosengren, Myrtle E.	Shriner's Hospital	Minneapolis
Sister Caroline Pepmeir	St. Lucas' Hospital	Faribault
Sister M. Coletta	St. Gabriel's Hospital	Little Falls
Sister Mary Cornelia Lee	St. Francis Hospital	Breckenridge
Sister Mary Leonissa	St. Mary's Hospital	Minneapolis
Sister M. Loyola Nolan	St. Gabriel's Hospital	Little Falls
Sister Mary Philomena	St. Ansgar's Hospital	Moorhead
Sr. Mary Theresita Rudolph	Loretto Hospital	New Ulm
Sister M. Xavier Reeves	St. Vincent's Hospital	Crookston
Sandberg, Elvy	St. Andrew's Hospital	Minneapolis
Schoen, Esther C.	619—Cedar St., South	Owatonna
Shurr, Marvel**	Midway Hospital	St. Paul
Slattendale, Julo A.	646 Cherokee Ave.	Minneapolis
Snobeck, Selma Mae	Deaconess Hospital	St. Paul
Toomey, Mrs. Martha M.	St. Mary's Hospital	Duluth
Van Dam, Esther	Abbott Hospital	Minneapolis
Vandervelde, Clara P.	St. Barnabas Hospital	Minneapolis
Vig, Gusta	Fairview Hospital	Minneapolis
Walthers, Ruth	Minneapolis General Hospital	Minneapolis
Westly, Gretha S.	Deaconess Hospital	Minneapolis
Whalen, Margaret Elinor	511—3rd St., East	Duluth

MISSISSIPPI

Adams, Dovie	Methodist Hospital	Hattiesburg
Angland, Margaret Mary	Ramsay Clinic	Laurel
Bramlett, Mrs. Jamie	Bramlett Clinic	Oxford
Collins, Susie May**	c/o Drs. Trudeau & O'Mara	Biloxi
Cooke, Helen B.	McComb City Hospital	McComb
Ellsey, Mrs. Hettye	11th St. and 21st Ave.	Meridian
Francis, Louise	Clarksdale Hospital	Clarksdale
Glass, Mrs. Ruth Perry	Methodist Hospital	Hattiesburg
Hallett, Mrs. Cordelia H.	Gamble Bros. Clinic	Greenville
Hatchett, Mrs. Harriett S.	Fite Hospital	Columbus
Hester, Allene	Jackson County Hospital	Pascagoula
Kling, Annie K.	Anderson Infirmary	Meridian
Lechner, Margaret	Biloxi Hospital	Biloxi
Maddox, Mrs. Marie I.	401 La Mara Bldg.	Meridian
Mims, Minnie L.	Greenwood-LeFlore Hospital	Greenwood
Parker, Gracie B.	c/o Drs. Gamble Bros. & Montgomery Clinic	Greenville
Scott, Mrs. Lida A.	c/o Dr. Eley	Moss Point
Wates, Mrs. Elizabeth N.*	3950 Council Circle	Jackson
Young, Effie	Pontotoc Clinic	Pontotoc

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MISSOURI

Anderson, Marion L.	Barnes Hospital	St. Louis
Atkinson, Florence S.	De Paul Hospital	St. Louis
Breitweiser, Ineze	Missouri Pacific Hospital	St. Louis
Buenger, Viola M.	1177 Tompkin St.	St. Charles
Cox, Anna	Missouri Baptist Hospital	St. Louis
Dickison, Hazel M.	Christian Hospital	St. Louis
Eddy, Kathryn M.	416 S. Kingshighway	St. Louis
Feaster, Ada M.	Missouri Baptist Hospital	St. Louis
Gay, Reva**	5512 Delmar	St. Louis
Gettinger, Anna L.	St. Louis City Hospital No. 1	St. Louis
Glenn, Tommie P.	Deaconess Hospital	St. Louis
Gronewald, Alice H.	416 S. Kingshighway	St. Louis
Grupp, Doris M.	530 N. Union Blvd.	St. Louis
Hartmeister, Meta M.	St. Louis County Hospital	St. Louis
Hodges, Mildred	378 N. Taylor	St. Louis
Holt, Nina Mae	Southeast Missouri Hospital	Cape Girardeau
Hopkins, Myrtle G.	Jewish Hospital	St. Louis
Huff, Mrs. Verda K.	612 N. Jefferson	Carrollton
Koehler, Emma M.***	Route 13, Box 121, Forrest Rd.	Kirkwood
Lamb, Helen*	Barnes Hospital	St. Louis
Lindsey, Jessie	4468 Forest Park Blvd.	St. Louis
McCarthy, Mrs. Kath. K.	4201 Locust	Kansas City
Marcum, Edith	216 S. Kingshighway	St. Louis
Nelson, Lucille C.	710 S. 16th St.	St. Joseph
Newman, Mrs. Beatrice M.	75 Lindworth, Clayton	St. Louis
Noon, Regina M.	4954 W. Pine St.	St. Louis
Sister M. Canisius Fahey	St. John's Hospital	St. Louis
Sister M. Cyrilla Wellman	St. Joseph's Hospital	Boonville
Sister Frieda L. Eckhoff	Deaconess Hospital	St. Louis
Sister Meinulpha	St. Francis Hospital	Washington
Sister Theresa Kettelhut	Deaconess Hospital	St. Louis
Scherer, Pearl	Deaconess Hospital	St. Louis
Shorter, Fern Adelle	416 S. Kingshighway	St. Louis
Sieg, Hattie C.	2415 N. Kingshighway	St. Louis
Slasor, Zelle	1400 Professional Bldg.	Kansas City
Spleth, Frieda W.	Missouri Baptist Hospital	St. Louis
Waltke, Mrs. Marie	Jewish Hospital	St. Louis

MONTANA

Bothell, Gladys M.	Sheridan Memorial Hospital	Plentywood
Christianson, Augusta V.	Montana Deaconess Hospital	Great Falls
Clayton, Mrs. Lillian B.		Whitefish
Diefenbaugh, Lela M.	Kennedy Deaconess Hospital	Havre
Eliasson, Hilda	Columbus Hospital	Great Falls
Henne, Bessie M.	St. Vincent's Hospital	Billings
Johnson, Mrs. Edna***	842 W. Silver St.	Butte
La Rocque, Dorothy	St. Vincent's Hospital	Billings
Long, Anna R.	Fort Peck Hospital	Poplar
McCarthy, Mrs. Margaret M.	621 N. 30th	Billings
Rausch, Sara	Government Hospital	Fort Peck
Reed, Loree J.	Bozeman Deaconess Hospital	Bozeman
Rowland, Mrs. Mae	Babcock Apts.	Billings
Sister Agnes Dooney	St. Patrick's Hospital	Missoula
Sister Aloysia Desy	Holy Family Hospital	St. Ignatius
Sister M. Azilda	St. Joseph Hospital	Lewiston
Mother Belina Poetz	St. Mary Hospital	Conrad
Sister Mary Charles***	Holy Rosary Hospital	Miles City

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Sister Eugene de Tivoli	St. Patrick's Hospital	Missoula
Sister Mary Fanahan***	Holy Rosary Hospital	Miles City
Sister M. Garina Storck	St. Mary Hospital	Conrad
Sister M. Helen Dugrenier	Columbus Hospital	Great Falls
Sister M. Irena	Columbus Hospital	Great Falls
Sister M. Lanfrida Becker	St. Mary's Hospital	Conrad
Sister Rachel Rausch	St. James Hospital	Butte
Sister M. Richard	Holy Rosary Hospital	Miles City
Sister M. Theophana	St. Joseph Hospital	Lewistown
Sister M. Vericunda	Sacred Heart Hospital	Havre
Sister Victor	St. Patrick Hospital	Missoula
Smith, Caroline B.	Montana Deaconess Hospital	Great Falls
Walsh, Helen D.	Northern Pacific Hospital	Missoula
Wilson, Helen D.	Thornton Hospital	Missoula
Winter, Mrs. Olive E.***	401 S. Lake Ave.	Miles City

NEBRASKA

Ackerman, Edith	St. Joseph Hospital	Omaha
Anderson, Marie S.	Immanuel Deaconess Institute	Omaha
Barron, Monee	Methodist Episcopal Hospital	Scottsbluff
Brich, Marcella	St. Catherine Hospital	Omaha
Brogan, Ellen	1108 South St.	Lincoln
Bulin, Ada	Methodist Episcopal Hospital	Scottsbluff
Christensen, Ruby	Bryan Memorial Hospital	Lincoln
Dickinson, Agnes G.	Lutheran Hospital	Omaha
Dorsey, Josephine J.	Nicholas Senn Hospital	Omaha
Dugan, Elizabeth I.*	4032 Burt St.	Omaha
Ganzel, Charlotte A.	Nicholas Senn Hospital	Omaha
Gulotta, Mrs. Wilhelmina	1734 South 17th St.	Lincoln
Hain, Agnes G.	Bishop Clarkson Hospital	Omaha
Hardes, Mary	Dodge County Hospital	Fremont
Kramer, Josephine	P. O. 58	Columbus
Meyers, Mrs. Audrey S.		Schuyler
Miller, Lillian	Roche Hospital	Sidney
Nelson, Leona K.**		Walnut
Omig, Mrs. Ruth	3452 Larimore St.	Omaha
Owens, Mrs. Mabel R.	4624 North 36th St.	Omaha
Sister M. Asella	St. Elizabeth Hospital	Lincoln
Sister M. Celsa Schmalen	St. Joseph Hospital	Alliance
Sister M. Claire Connelly	St. Joseph Hospital	Alliance
Sister M. Theola Vetter***	St. Joseph Hospital	Alliance
Sister M. Ursula Dixon	St. Mary's Hospital	Nebraska City
Shaffer, Anna M.	Methodist Hospital	Omaha
Svoboda, Kathryn C.	528 Park Ave.	Omaha
Van Sweringen, Bertha	Grand Island Clinic	Grand Island
Woodgate, Mrs. Marie E.	109 West 7th St.	North Platte

NEW HAMPSHIRE

Cummings, Marion***	Box 83	Henniker
Eagles, Beatrice C.***	Clinic	Berlin
Mosher, Faye R.	Memorial Hospital	North Conway
Pedersen, Carin H.	Portsmouth General Hospital	Portsmouth
Ryan, Ellen	Mary Hitchcock Memorial Hosp.	Hanover
Schurman, Myrta J.	N. H. Memorial Hospital	Concord
Thompson, Vera L.	Margaret Pillsbury Hospital	Concord

NEW JERSEY

Aberg, Harriet L.	Muhlenberg Hospital	Plainfield
Ball, Mrs. Dorothy C.	157 North 10th Ave.	Highland Park

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Bryant, Laura	Cooper Hospital	Camden
Calden, Mrs. Mary P.	Hospital & Home for Crippled Children	Newark
Cook, Maude M.	Presbyterian Hospital	Newark
Dangler, Jessie M.	Dr. E. C. Hazard Hospital	Long Branch
Dangler, Leona	Dr. E. C Hazard Hospital	Long Branch
Dutton, Philomena	Newton Memorial Hospital	Newton
Dwyer, Elizabeth A.	All Souls' Hospital	Morristown
Farmer, Mrs. Eliz. H.***	7 Blake Ave.	Cranford
Foster, Orpha V.	West Jersey Homeopathic Hosp.	Camden
Gardner, Mrs. Anna M.	2 Chapman Place	Irvington
Gaumer, Mrs. Miriam S.	422 First Street	Lakewood
Glenn, Martha K.	St. Peter General Hospital	New Brunswick
Glick, Marie	Cooper Hospital	Camden
Graf, Nellie P.	Monmouth General Hospital	Long Branch
Hale, Florence V. M.	St. Peter General Hospital	New Brunswick
Hawk, Eleanor Reid	Newark Memorial Hospital	Newark
Hill, Nathalie	Middlesex General Hospital	New Brunswick
Holcombe, Mrs. Emily M.	15 Washington Street	Newark
Horne, M. Catherine	St. Francis Hospital	Trenton
Horwitt, Bebe M.	St. Peter General Hospital	New Brunswick
Jones, Katherine E.	Presbyterian Hospital	Newark
Kehoe, Margaret M.	All Souls' Hospital	Morristown
Kropa, Ruth M.	Somerset Hospital	Somerville
Lambert, Mrs. Mary G.	224 Broad Street	Newark
Logan, Della*	Cooper Hospital	Camden
Lowery, Martha E.	Hospital of St. Barnabas	Newark
Loyd, Belle	Overlook Hospital	Summit
McGarry, Helen M.	Morristown Memorial Hospital	Morristown
Marren, Alma D.	St. Francis Hospital	Trenton
Maunsell, Wilma	Beth Israel Hospital	Newark
Mitchell, Mrs. Susan B.***	59 South Street	Newark
Morang, Elizabeth H.	St. Vincent's Hospital	Montclair
Nash, Mrs. Ruth M.	Muhlenberg Hospital	Plainfield
Patterson, Mary A.**	Cooper Hospital	Camden
Patterson, Pearl C.	Dr. E. C. Hazard Hospital	Long Branch
Reynolds, Harriet E.	Memorial Hospital	Morristown
Sister M. Benildis Schumm	St. Francis Hospital	Trenton
Stone, Mae	Presbyterian Hospital	Newark
Strandberg, Mrs. Agnes P.	94 Washington Ave.	Carteret
Strom, Ruth E.	211 South Center Street	Orange
Sutton, Alberta	Middlesex General Hospital	New Brunswick
Thomas, Ora E.	Elizabeth General Hospital	Elizabeth
Walmach, Grace D.	Overlook Hospital	Summit
Weaver, Gertrude M.	Princeton Hospital	Princeton
White, Mrs. Helen Fritz	Beth Israel Hospital	Newark
Winsor, Mrs. Phyllis G.	Presbyterian Hospital	Newark
Wire, Charlotte***	224 Park Ave.	Hackettstown

NEW MEXICO

Frost-Parsons, Bertha G.		Shiprock
Sister M. Rose Demuth	St. Francis Hospital	Carlsbad

NEW YORK

Adrion, Pearl C.	Queen of the Holy Rosary Conv.	Amityville, L. I.
Anderson, Mrs. Sally	410 E. 65th St.	New York
Andrews, Mabel I.	Queen's General Hospital	Jamaica, L. I.
Armstrong, Anne E.	Parker Pl., c/o Mrs. M. Meade	Babylon, L. I.

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Armstrong, Ethel	39 Auburn Pl.	Brooklyn
Arthur, Joan H.	Temporary address, c/o Geoffrey L. Arthur, 447 Norwood Rd., London S. E. 27, England	
Barry, Margaret C.	St. Mary's Hospital	Rochester
Bean, Verna E.	480 Herkimer St.	Brooklyn
Bentz, Rosemary F.	18 E. 48th St., Room 1902	New York
Bieber, Clara G.	141 W. 109th St.	New York
Billard, Esther P.	Nassau Hospital	Mineola, L. I.
Billmeyer, Hancie M.	Wyckoff Heights Hospital	Brooklyn
Blanchard, Hazel	2342—15th St.	Troy
Botsford, Ruth	Strong Memorial Hospital	Rochester
Buckley, Ann D.	Boulevard Hospital	Long Island City
Burch, Ethel C.	Columbus Hospital	New York
Burg, Mrs. Flora M.	1320 York Ave.	New York
Carruthers, Aletha H.***	White Plains Hospital	White Plains
Collins, Agnes G.	New York Hospital	New York
Clarisse, Elsie M.	Highland Hospital	Rochester
Clode, Mrs. Mary	Peck Memorial Hospital	Brooklyn
Colleran, Emma A.	Ellis Hospital	Schenectady
Constandi, Constance F.	Green County Memorial Hosp.	Catskill
Cook, Mildred	Coney Island Hospital	Brooklyn
Cooper, Muriel A.	Luther Hospital	Brooklyn
Craven, Helen K. (Life Member)	City Hospital, Welfare Island	New York
Dailey, Grace M.	Queen of the Holy Rosary Conv.	Amityville, L. I.
Danaher, May G.	1845 Becker St.	Schenectady
Danzeisen, Estelle W.	Midtown Hospital	New York
Davis, Elizabeth F.	Nassau Suffolk General Hospital	Copiague, L. I.
DeNoyelles, Mae H.	St. John's Riverside Hospital	Yonkers
DeYoung, Estelle	Temporary address, 1921 N. Wilcox, Hollywood, California	
Desmond, Mary	North Country Comm'ty Hosp.	Glen Cove, L. I.
Dobbie, Marie P.	63 North Hampton St.	Buffalo
Dolce, Mildred R.	496 Swan St.	Buffalo
Dougan, Janet B.	Morrisania Hospital	New York
Dougherty, Donna D.	Chas. S. Wilson Mem'l Hospital	Johnson City
Duffield, Caroline	70 Morningside Dr.	New York
Edwards, Mrs. Pauline***	1240 Pacific St.	Brooklyn
Eveleth, Grayce S.	337 E. 30th St.	New York
Fisher, Mrs. Eliz. Thompson	119-21 Metropolitan Ave.	Kew Gardens, L. I.
FitzGerald, S. Louise	815 Seward St.	Rochester
Flanagan, Mrs. Helen G.***	Chenango Memorial Hospital	Norwich
Fowler, Mrs. Sophie K.	38 E. 85th St.	New York
Foy, Cora Lee	Manhattan Eye, Ear, Nose and Throat Hospital	New York
Franke, Elsa E.	1484 Glenwood Blvd.	Schenectady
Gale, Mrs. Mary***	223 Maple Ave.	Riverhead, L. I.
Gallon, Martha	Coney Island Hospital	Brooklyn
Gaupp, Roberta M.	Ellis Hospital	Schenectady
Geiss, Mrs. Helen M.	Strong Memorial Hospital	Rochester
Gilleran, Gertrude M.	Sta. B, Hudson River State Hosp.	Poughkeepsie
Gilliland, Eddie M.	Jamaica Hospital	Jamaica, L. I.
Glenz, Muriel M.	Minor Surgical Nursing Service	Hempstead, L. I.
Graham, Ada M.	141 W. 109th St.	New York
Haubennestel, Mrs. R. C.***	Vassar Bros. Hospital	Poughkeepsie
Healy, Mrs. Faith DeB.	116 W. 197th St., Bronx	New York
Hendrickson, Grace L.	Meadowbrook Hospital	Hempstead, L. I.

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Henneberger, Martha E.	Women's Hospital	New York
Hess, Mrs. Frances*	Lng Island College Hospital	Brooklyn
Hoge, Esther H.	700 W. 168th St.	New York
Hughes, Grace G.	Women's Hospital	New York
Jackson, Marguerite M.	Vassar Bros. Hospital	Poughkeepsie
Jenne, Mary A.	Jamaica Hospital	Jamaica, L. I.
Jennings, Gertrude M.	New Rochelle Hospital	New Rochelle
Johnston, Maude	317—73rd St.	Brooklyn
Jones, Deborah	528 Warren St.	Albany
Kane, Ethel M.	Strong Memorial Hospital	Rochester
Keller, Bessie M.	Cumberland Hospital	Brooklyn
Ketcham, Emma Alber	51 Mitchell Ave.	Binghampton
Kline, Ethel C.	553 Warren St.	Hudson
Kohn, Goldie	567 Prospect Pl.	Brooklyn
Korinek, Boldiena A.	8930 Van Wyck Blvd.	Richmond Hill, L. I.
Kramer, Florence M.	171 Linwood Ave.	Buffalo
Kreiger, Mrs. Bessie L.	103 Hooker Ave.	Poughkeepsie
Lambert, Marcella F.	1567 Nostrand Ave., Flat.,	Brooklyn
Lapinski, Pauline E.	Long Island College Hospital	Brooklyn
Lemke, Anna C.	Women's Hospital	New York
Lewis, Mrs. Elizabeth M.	Alice Hyde Hospital	Malone
Lewis, Rhoda	673 Locust St., Apt. 3c	Mt. Vernon
Lipiniski, Bernice	Strong Memorial Hospital	Rochester
Litzen, Catherine	1320 York Ave.	New York
Lynch, Eunice	3402—153rd St.	Flushing, L. I.
Lynch, Regina G.	Morrisania Hospital	New York
MacIver, Kathryn M.	Bay Ridge Sanitarium	Brooklyn
MacQuarrie, Barbara A.	New York Hospital	New York
McCoy, Mrs. Charlotte	New York Hospital	New York
McFadden, Dessie	1303 York Ave.	New York
McKay, Cora (Honorary Member N. Y. Ass'n)	Albany Hospital	Albany
McKay, Mildred L.	120 Keyes Ave.	Watertown
McQuilton, Ida M.	Nassau Hospital	Mineola, L. I.
Malloy, Muriel F.	Jefferson Heights	Catskill
Masler, Catherine A.	105 Carlton Ave.	Brooklyn
Mavor, Mrs. Mae	New York Orthopedic Hospital	New York
Mayfield, Lois	Kings County Hospital	Brooklyn
Meek, Mary A.	1255 Delaware Ave.	Buffalo
Minnick, Hilda I.	North Country Comm'ty Hosp.	Glen Cove, L. I.
Morrow, Dorothy H.	Highland Hospital	Rochester
Moss, Naomi S.	39 Leverich St.	Hempstead, L. I.
Moyer, Mrs. Louise D.	339 E. 58th St.	Brooklyn
Mullin, Sara R.	New York Hospital	New York
Murphy, Anna D.	Ellis Hospital	Schenectady
Neff, Lois M.	300 Lenox Road	Brooklyn
Norris, Anna V.	United Hospital	Port Chester
O'Neill, Anna T.	Israel Zion Hospital	Brooklyn
Patten, Helen L.	62 Chestnut St.	Cohoes
Patterson, Dorothy D.	Mary Immaculate Hospital	Jamaica, L. I.
Peisher, Lillian J.	Newark State School	Newark
Penland, Anne	Presbyterian Hospital	New York
Perry, Mary F.	309 E. 49th St.	New York
Peskin, Edith M.	170 W. 76th St.	New York
Peters, Mrs. Helen U.***	Townsend Hospital	Gowanda
Phillips, Frances	Hudson City Hospital	Hudson
Ponti, Katherine	U. S. Marine Hospital	Stapleton, S. I.
Prentice, Mildred V.	Bethany Deaconess Hospital	Brooklyn

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Rabinowitz, Frances	Staten Island Hospital	Tompkinsville, S. I.
Racette, Alice M.**	Ellis Hospital	Schenectady
Rea, Pauline K. V.	Wilson Memorial Hospital	Johnson City
Rees, Madge	Box 95, Niskaguna	Albany Co.
Reichling, Dorothy A.	622 W. 168th St.	New York
Reusch, Marion Edith	Post Graduate Hospital, Reconstruction Unit, 395 Central Park West	New York
Rhodes, Sue	Methodist Hospital	Brooklyn
Riebhoff, Grace H.	267 S. Ocean Ave.	Freeport, L. I.
Roach, Evelyn	500 E. 80th St.	New York
Roberge, Jeanne	Cumberland Hospital	Brooklyn
Rogge, Anna Kline	260 Lenox Rd.	Brooklyn
Root, Dorothy J.	260 Lenox Rd., Apt. 4B	Brooklyn
Rupert, Cecile B.	Mather Memorial Hospital	Port Jefferson, L. I.
Russell, Jessie G.	New York Hospital	New York
Russell, M. Mabel	Potsdam Hospital	Potsdam
Sister Mary Bernetta	Mt. Mercy Hospital	Buffalo
Sister Mary DeSalles	Mercy Hospital	Hempstead, L. I.
Sister Mary Inez	Mercy Hospital	Buffalo
Sister M. Nazarene	Mary Immaculate Hospital	Jamaica, L. I.
Sister M. St. Joseph	St. Joseph's Hospital	Elmira
Sister St. Ann	St. Joseph's Hospital	Elmira
Satterlee, Charlotte D.	Memorial Hospital	Albany
Schmid, Carol	880 Lafayette Ave.	Buffalo
Schmidt, Lucy L.	Hospital for Joint Diseases	New York
Shatz, Esther	Jewish Hospital	Brooklyn
Shellenberger, Frances V.	196 Washington Park	New York
Silverman, Mrs. Helen E.	8801 Shore Rd.	Brooklyn
Shoemaker, Jane E.	1230 Gerard Ave.	New York
Shupp, Miriam G.	Strong Memorial Hospital	Rochester
Smith, Alice C.	Prospect Heights Hospital	Brooklyn
Smith, Golda	83 E. 37th St.	Brooklyn
Spear, Elizabeth	United Hospital	Port Chester
Spencer, Eva N.	City Hospital	Salamanca
Spongberg, Alice J.	Bay Ridge Sanitarium	Brooklyn
Steffen, Gertrude	Long Island College Hospital	Brooklyn
Stevens, Jean A.	Jewish Hospital	Brooklyn
Stewart, Anna E.	Manhattan Eye, Ear, Nose and Throat Hospital	New York
Stroobant, Marie H.	Park Avenue Hospital	Rochester
Suhrhoff, Marion A.	Midwood Hospital	Brooklyn
Sullivan, Margaret F.	Strong Memorial Hospital	Rochester
Tippit, Clyde D.	200 W. 15th St.	New York
Tschudin, Marie	Vassar Bros. Hospital	Poughkeepsie
von Bockum-Dolffs, Irmgard	Hosp. for Ruptured & Crippled	New York
Vornholt, Anna L.	Temporary address, 27 E. Duncan St., Columbus, Ohio	
Waldhaus, Edith A.	Mary Immaculate Hospital	Jamaica, L. I.
Wark, Marion K.	22 Junius St.	Brooklyn
Weaver, R. Edith	Hudson City Hospital	Hudson
Welker, Marianne H.	Yonkers General Hospital	Yonkers
Weisensee, Barbara	Minor Surgical Nursing Service	Hempstead, L. I.
Wilson, Caroline M.	235 Bryant St.	Buffalo
Wright, Anna M.	Nassau Hospital	Mineola, L. I.
Wurtz, Clara A.	200 Wallace Ave.	New York
Yokus, Frances C.	Manhattan Eye, Ear, Nose and Throat Hospital	Buffalo
Yoskey, Julia A.	Brooklyn Hospital	Brooklyn
Ziegler, Martha T.	427 Linden Blvd.	Brooklyn

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NORTH CAROLINA

Clark, Irene S.	Roanoke Rapids Hospital	Roanoke Rapids
Derrick, Ora	James Walker Memorial Hosp.	Wilmington
Dowd, Nova J.	Rex Hospital	Raleigh
Fleming, Maude M.	Box 327	Louisburg
Goodman, Eliza D.	Duke University Hospital	Durham
Green, Annie L.	Randolph Hospital	Asheboro
Hamm, Alma S.	Duke University Hospital	Durham
Hardin, Mary S.	Rutherford Hospital	Rutherfordton
Henley, Jamie	N. C. O. Hospital	Gastonia
Isley, Nellie	Catawba General Hospital	Newton
La Chance, Mrs. Lola J.	Box 492	Southern Pines
Luther, Nell	93 White Fawn Drive	Asheville
Medlin, Mrs. Addie F.	Route 1, Box 133	Roanoke Rapids
Muller, Mary H.	Duke University Hospital	Durham
Reames, Mary F.	211 Frederick Apts.	Charlotte
Salmon, Carrie I.	Park View Hospital	Rocky Mount
Sellars, Bessie L.	416 Front St.	Burlington
Scarborough, Mante	Presbyterian Hospital	Charlotte
Smith, Carrie	Baker Sanatorium	Lumberton
Snively, Mary H.	Duke University Hospital	Durham
Wilson, Beatrice H.	James Walker Memorial Hosp.	Wilmington

NORTH DAKOTA

Ammentorp, Magna	Deaconess Hospital	Grand Forks
Berg, Sina	512 Rosser	Bismarck
Engen, Christine G.	Trinity Hospital	Minot
Forsch, Martha C.	111 Rosser Ave.	Bismarck
Gallup, Sadie M.	Jamestown Hospital	Jamestown
Sister M. Brendan Tuohy	Mercy Hospital	Langdon
Sister M. Camillus	Mercy Hospital	Valley City
Sister M. Dosithea Swoboda	Trinity Hospital	Jamestown
Sister M. Eugene Liston	Mercy Hospital	Williston
Sister Georgiana Delmore	St. John's Hospital	Fargo
Sister St. Elizabeth Heyn	St. Michael's Hospital	Grand Forks
Sister St. Ignatius	Trinity Hospital	Jamestown
Sister Mary William	St. Joseph's Hospital	Minot
Solberg, Martha	Good Samaritan Hospital	Rugby
Stennes, Josephine	Good Samaritan Hospital	Rugby
Thompson, Rosemary	St. John's Hospital	Fargo
Winters, Ella A.	St. Luke's Hospital	Fargo

OHIO

Adams, Lou E.	Cleveland Clinic Hospital	Cleveland
Allwein, Aida B.	Mt. Sinai Hospital	Cleveland
Arnold, Erina M.	St. Ann's Hospital	Cleveland
Auble, Mada C.	613 Home Savings & Loan Bldg.	Youngstown
Aultman, Mary Lou	Cleveland Clinic Hospital	Cleveland
Barnett, Florence M.	Glenville Hospital	Cleveland
Barth, Alice L., Life Member Amer. Ass'n of Nurse Anesthetists	Youngstown Hospital N. S. Unit	Youngstown
Beros, Anna E.***	St. Joseph's R. C. Rectory	Toronto
Boswell, Mrs. Florence H.	1334 Inglewood Drive	Cleveland Heights
Boyer, Elizabeth	Glenville Hospital	Cleveland
Brown, Zoe Barbara	University Hospitals	Cleveland
Bruchnechter, Margaret R.	2468 E. 124th St.	Cleveland
Burford, Mrs. Evalyn W.***	1922 Tuscarawas St., W.	Canton

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Burlage, Mrs. Katherine***	660 Johnson Ave.	Bedford
Callot, Mrs. Henrietta M.	2044 Cornell Road	Cleveland
Campbell, Violet	St. Elizabeth's Hospital	Youngstown
Carney, Helen U.	Youngstown Hospital, N. S. Unit	Youngstown
Carpenter, Grace E.	Children's Hospital	Cincinnati
Case, Mrs. Loretta F.	Box 347, Station D	Cleveland
Colan, Mrs. Catherine	University Hospitals	Cleveland
Colyer, Opal	City Hospital	Cleveland
Correll, Marian A.	St. Luke's Hospital	Cleveland
Coughlin, Johanna M.	Good Samaritan Hospital	Dayton
Crauder, Dona	107 Stockton Ave.	Dayton
Davis, Ruth L.	City Hospital	Cleveland
Debelak, Josephine M.	Woman's Hospital	Cleveland
Dickerson, Mrs. Ann N.	19443 N. Sagamore Drive	Rocky River
Dingledine, Margaret	335 North Robert Blvd.	Dayton
Dixon, Mrs. Frances A.	St. Luke's Hospital	Cleveland
Driver, Marvil	City Hospital	Akron
Duffy, Florence	St. Vincent Charity Hospital	Cleveland
Duffy, Mrs. Madeline M.	Mt. Sinai Hospital	Cleveland
Duggar, Charlotte	University Hospitals	Cleveland
Ealy, Inez M.	Elyria Memorial Hospital	Elyria
Edwards, Grace M.	University Hospitals	Cleveland
Fichner, Mrs. Margaret***	Box 202	Utica
Gertrude L. (Honorary member Ohio Ass'n)	University Hospitals	Cleveland
Franzen, Elizabeth M.	City Hospital	Akron
Giffin, Eva M.	DeCourcy Clinic	Cincinnati
Graff, Ruth	University Hospitals	Cleveland
Gruler, Imelda M.	3157 Glenmore, Westwood	Cincinnati
Guthridge, Maria E.	Ft. Hamilton Hospital	Hamilton
Hale, Mrs. Dessa C.	Hale Hospital	Wilmington
Hawkins, Mrs. Marjorie S.	R. F. D. No. 1	Niles
Heckathorn, Helen M.	St. Thomas Hospital	Akron
Hollister, Marian	University Hospitals	Cleveland
Hunlocke, R. Clodelle	Detwiler Memorial Hospital	Wauseon
Jones, Mrs. Isabel	4210 Floral Ave.	Norwood
Kaiser, Emilie	University Hospital	Columbus
Kellogg, Mrs. Mary Lucile	University Hospitals	Cleveland
King, Mabel E.	Bethesda Hospital	Cincinnati
Kochlauner, Frances	University Hospitals	Cleveland
Krakau, Mrs. Juliet Stanton	24501 Euclid Ave.	Euclid
Lott, Anna M.	Good Samaritan Hospital	Cincinnati
McAllister, Mrs. Margaret	10307 Churchill Ave.	Cleveland
McGilliard, Dorothy	223 N. Cooper Ave.	Lockland
McMahon, Janet	City Hospital	Cleveland
Miller, Mary F.	Elyria Memorial Hospital	Elyria
Momeyer, Myrn E.*	St. Luke's Hospital	Cleveland
Moore, Clara R.	St. Alexis Hospital	Cleveland
Morgan, Martha A.	St. Ann's Hospital	Cleveland
Muhleman, Mancy L.	Deaconess Hospital	Cleveland
Ormseth, Palma M.	Youngstown Hospital, N. S. Unit	Youngstown
Parker, Daisy A.	Youngstown Hospital, S. S. Unit	Youngstown
Pfeifer, Christine K.	Children's Hospital	Columbus
Pintar, Mrs. Anna M.		
Pletz, Mrs. Melva Marie	Fairview Park Hospital	Cleveland
Pracejus, Esther C.	Lutheran Hospital	Cleveland
Rathweg, Mary Ruth	Good Samaritan Hospital	Dayton
Renner, Mrs. Naomi	2453 Clybourn Place	Cincinnati
Richards, Lucy E.	City Hospital	Cleveland

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Richardson, M. Phyllis	Deaconess Hospital	Cleveland
Rinker, Wilma	Mt. Sinai Hospital	Cleveland
Roberts, Mrs. Pauline T.	Good Samaritan Hospital	Cincinnati
Rockwood, Melva Marie	Lutheran Hospital	Cleveland
Rothansky, Anna M.	St. Luke's Hospital	Cleveland
Russ, Ann L.	424 Alameda Ave.	Youngstown
Sister Mary Benignus Leahy	Mercy Hospital	Hamilton
Sister John Edward Kaiser	Good Samaritan Hospital	Cincinnati
Sister Mary Matthew Regan	Good Samaritan Hospital	Cincinnati
Sargeant, Florence V.	Cleveland Clinic Hospital	Cleveland
Sauers, Mildred**	City Hospital	Cleveland
Selby, Georgiana	R. F. D. 2	New Lexington
Sloat, Mildred R.	Mt. Carmel Hospital	Columbus
Smith, Dorothy M.	University Hospitals	Cleveland
Stevens, Alcey H.	Youngstown Hospital, S. S. Unit	Youngstown
Stewart, Romaine M.	People's Hospital	Akron
Stillman, Mrs. Irene M.	7618 Dorothy Ave.	Parma
Taylor, Jeanette	Union Hospital	Dover
Terry, Ann	St. Vincent Charity Hospital	Cleveland
Van Arsdale, Mrs. Myra A.	St. Luke's Hospital	Cleveland
Vornholt, Louise Anna	27 E. Duncan St.	Columbus
Walker, Marjory H.	Mt. Sinai Hospital	Cleveland
Walters, Martha A.	Mt. Sinai Hospital	Cleveland
Ware, Mrs. Mary A. (Life Member Amer. Ass'n)	Children's Hospital	Cincinnati
Wass, Agnes A.	Woman's Hospital	Cleveland
Webb, Alma	Cincinnati General Hospital	Cincinnati
Weber, Lillian	Women's & Children's Hospital	Toledo
Wertz, E. Ruth	Deaconess Hospital	Cleveland
Wilkes, Vernie M.	664 N. Park St.	Columbus
Willey, Mary J.	Mt. Carmel Hospital	Columbus
Wise, Leila P.	St. Elizabeth's Hospital	Dayton

OKLAHOMA

Diefenderfer, Dixie Lee	Wesley Hospital	Oklahoma City
Graham, Mrs. Estelle	Valley View Hospital	Ada
Loftus, Julia D.**	Community Hospital	Elk City
Park, Mrs. Eula McNiel	926 S. 6th St.	McAlester
Pitt, Mrs. Beatrice W.	Wesley Hospital	Oklahoma City
Puett, Martha*	Masonic Hospital	Cushing
Smith, Eleanor	Wesley Hospital	Oklahoma City
Smith, Thelma Page	Hardy Sanitarium	Ardmore
Williams, Mrs. Bernice E.***	1428 W. Cedar St.	Durant

OREGON

Anderson, Mrs. Kathryn M.	1225—28th St.	Milwaukie
Atkinson, Alice E.	Charlton Hospital	Tillamook
Auld, Clarissa J.	2182 N. W. Hoyt	Portland
Baldwin, Mrs. Louise S.	6120 S. E. Yamhill	Portland
Brye, Olivia	2800 N. Commercial	Portland
Brown, Avis M.	652 Franklin Ave.	Astoria
Bunch, Mrs. L.	4030 S. W. Condor	Portland
Butler, Hazel	Box No. 634	Tillamook
Caraway, Olga L.***	Route No. 6, Box No. 1042	Portland
Carter, Mrs. Hazel P.***	827 Willamette St.	Eugene
Clendenning, Patricia M.	313 S. Grape St.	Medford
Coleman, Mrs. Marion R.	806 W. Main St.	Medford
Darby, Merwyn	2236 S. E. Salmon St.	Portland
Dempsey, Anne	Rt. No. 4, Box No. 190B	Oregon City

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Dimig, Mary K.	2800 N. Commercial Ave.	Portland
Doerr, Aimee L.	2374 N. W. Kearney St.	Portland
Dow, Mrs. Jean E.	Eugene Hospital	Eugene
Downing, Ruth	660 Exchange St.	Astoria
Dudley, Gail R.	Salem T. B. Hospital	Salem
Durno, Mrs. Evelyne R.	1913 Hillcrest Road	Medford
Fagan, Jeanne C.	2207 N. W. Flanders	Portland
Feser, Anne*	308 Medical Dental Bldg.	Portland
Fisher, Kathryn	2282 N. W. Northrup	Portland
Fletcher, Jessie C.***	2411 N. W. Northrup	Portland
Floren, Marie E.	2800 N. Commercial	Portland
Gammon, Mrs. Edna C.	U. S. Nat'l Bank Bldg.	The Dalles
Gibson, Mrs. Bessie Collinge	642 Lawrence St.	Eugene
Giddings, Margaret	6425 N. E. Alameda	Portland
Gorman, Mary G.	831 S. W. Vista Ave.	Portland
Grunefelder, Emma E.	Jones Apt., No. 6	Bend
Hagerty, Cora***	Columbia Hospital	Astoria
Harris, Mrs. Louise***	6325 S. E. Morrison St.	Portland
Holmes, Mrs. Amelia L.	P. O. Box No. 142	Talent
Johnson, Mrs. Elizabeth D.	2005—28th St.	Milwaukie
Johnson, Katherine M.	Box No. 1136	Bend
Laird, Mrs. Rosena	65 W. 25th St.	Eugene
LaValla, Margaret	Emanuel Hospital	Portland
Love, Mrs. Margaret H.	3207 N. E. 19th St.	Portland
Markworth, Marjorie R.**	2182 N. W. Hoyt St.	Portland
Martin, Sylvia J.	2282 N. W. Northrup	Portland
Morse, Mrs. Cecile L.***	Mid-Columbia Hospital	The Dalles
McCorkle, Mrs. Clara M.	Emanuel Hospital	Portland
McDonald, Lillian M.	Salem General Hospital	Salem
McElligott, Mabel	4705 N. E. Mallory Ave.	Portland
McGee, Agnes	2328 N. W. Everett St.	Portland
Nelson, Carrie L.	1925 S. E. 56th Ave.	Portland
O'Brien, Mrs. Daisy	Holmes Lane	Oregon City
Ogelsby, Fannie M.	Deaconess Hospital	Salem
Paulson, Ida C.	Oregon City Hospital	Oregon City
Pobochenko, Mrs. Ruth	5714 S. E. Belmont	Portland
Sister Agnes de Boheme	St. Vincent's Hospital	Portland
Sister M. Bernardo Morrish	St. Vincent's Hospital	Portland
Sister Anna H. Duerkson	665 S. Winter St.	Salem
Sister Edward Mary Furney	St. Vincent's Hospital	Portland
Sister Maryanna Stec	Holy Rosary Hospital	Ontario
Sister M. Patrick Mahoney	St. Joseph's Hospital	La Grande
Sister Sylvina Beard	St. Anthony's Hospital	Pendleton
Sister Ottilia	St. Mary's Hospital	Astoria
Shaw, Mrs. Blossom C.	27 Short St.	Corvallis
Shelton, Mrs. Florence T.	Rt. 5, Box 170, Canyon Rd.	Portland
Sogaard, Gertrude	Salem General Hospital	Salem
Spinning, Marion F.***	1715 N. E. 45th Ave.	Portland
Svenson, Mrs. Emma Haug	3932 N. Albina Ave.	Portland
Tautfest, Frances	6012 S. E. Yamhill St.	Portland
Walker, Faye	Good Samaritan Hospital	Portland
Wilhelm, Mrs. Hazel I.	3424 N. E. Tillamook St.	Portland
Wilmot, Katurah M.	2126 S. E. Elliott Ave.	Portland
Zell, Gladys H.	1195 N. 14th St.	Salem

PENNSYLVANIA

Abary, Edith E.*	Harrisburg Hospital	Harrisburg
Alburger, Mrs. Frances M.	107 E. 10th St.	Honesdale
Anderson, Thorene G.	81 Katherine St.	Port Allegany

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Baker, Alma G.	Brookville Hospital	Brookville
Barclay, Mrs. Mary Wilbert	Uniontown Hospital	Uniontown
Barie, Elfreda T.	St. John's Hospital	Pittsburgh
Bartruff, Sara C.	Beaver Valley General Hospital	New Brighton
Beausoleil, Anne	St. Joseph's Hospital	Lancaster
Beringer, Mrs. Mary L.	Rochester General Hospital	Rochester
Bettinger, Agnes E.	R. D. No. 1	Royersford
Bingel, Esther A.	St. Luke's Hospital	Bethlehem
Borgstrom, Hilma C.	Stetson Hospital	Philadelphia
Bowkley, Naomi E.	Wyoming V. Homeopathic Hosp.	Wilkes Barre
Boyer, Mrs. Alice P.	339 Ormond Ave.	Sharon
Brady, Sara I.	2117 Carson St.	Pittsburgh
Bradley, Marion F.	Valley Hospital	Sewickley
Briggs, Mrs. Marion R.	309 Mattison Ave.	Ambler
Brislin, Mae C.	Osteopathic Hospital	Philadelphia
Bucher, Sara K.	610 W. Lemon St.	Lancaster
Burkett, Cleo P.	Lewistown Hospital	Lewistown
Bussard, Virginia E.	Box No. 18	Arona
Byers, Gertrude S.	Allegheny General Hospital	Pittsburgh
Cain, Mrs. Leata Boughner	Wilkes Barre General Hospital	Wilkes Barre
Campbell, Clara B.	332—6th Ave.	McKeesport
Carpenter, Lena	1015 Wyoming Ave.	Exeter
Casey, Josephine D.	Fitzgerald-Mercy Hospital	Darby
Chapman, Mrs. Mildred Kay	Metropolitan Hospital	Philadelphia
Ciszek, Florence S.	Locust Mt. Hospital	Shenandoah
Clancey, Eileen E.	2929 Knowson Ave.	Pittsburgh
Clark, Gertrude R.	Graduate Hospital	Philadelphia
Cleaver, Kathryn E.	Mercy Hospital	Wilkes Barre
Connolly, Mrs. Pearl Stewart	1542 Easton Ave.	Bethlehem
Cool, Mary E.	West Penn Hospital	Pittsburgh
Costello, Ella T.	Montefiore Hospital	Pittsburgh
Crawley, Stella M.	637 Indiana Ave.	Glassport
Da Grosa, Millie	Doctors Hospital	Philadelphia
Davies, Marian	Moses Taylor Hospital	Scranton
Davis, Edith	Allentown Hospital	Allentown
Davis, Elizabeth M.	Palmerton Hospital	Palmerton
Davis, Mrs. Hester V. P.	Germantown Hospital	Philadelphia
Dawher, Emma E.	Lying-In Hospital	Philadelphia
Degutis, Margaret M.	State Hospital	Pottsville
Derr, Thelda E.	Suburban General Hospital	Bellevue
Dibert, Helen L.	Altoona Hospital	Altoona
Dickinson, Mary K.	Lankenau Hospital	Philadelphia
Donavan, Rose G.	Mt. Sinai Hospital	Philadelphia
Dougherty, Gertrude	Charleroi-Monessen Hospital	N. Charleroi
Dougherty, Loretta A.	4601 Bayard St.	Pittsburgh
Dowling, Mrs. Ruth Cooke	700 Sheridan Ave.	Pittsburgh
Ellsworth, Catherine Camp	Williamsport Hospital	Williamsport
Emerick, Ida McKinley	Rochester General Hospital	Rochester
Evans, Mrs. Evelyn E.	Hahnemann Hospital	Scranton
Foster, Anne B.	Citizens General Hospital	New Kensington
Freeland, Mrs. Eva Ward	Greene County Mem'l Hospital	Waynesburg
Fulton, Faye L.	Methodist Episcopal Hospital	Philadelphia
Furlong, Rose L.	Jewish Hospital	Philadelphia
Gagliardi, Katharine	Lankenau Hospital	Philadelphia
Gardecki, Stella T.	Mercy Hospital	Altoona
Garvey, Helen R.	Blair Memorial Hospital	Huntingdon
Geist, Mrs. Nancy S.***	5302 Spruce St.	Philadelphia
George, Rebekah W.	Shadyside Hospital	Pittsburgh
Giffen, Margaret M.	Women's Hospital	Pittsburgh

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Gilbert, Jeanette M.	Women's College Hospital	Philadelphia
Gilmore, Ruth S.	Butler Co. Memorial Hospital	Butler
Glenn, Marie G.	Maple Ave. Hospital	DuBois
Glinz, Mary J.	Kensington Hospital	Philadelphia
Goodell, Mrs. Ruth Lynn	921 Helen Ave.	Lancaster
Grant, Anna K.	Presbyterian Hospital	Pittsburgh
Greaves, Elizabeth	1817 Pine St.	Philadelphia
Hagenbach, Beatrice	Hershey Industrial School	Hershey
Hammond, Mary B.	Lying-In Hospital	Philadelphia
Hammond, Mrs. Theresa A.	3311 N. Broad St.	Philadelphia
Hartenstein, Mrs. Jessie M.	925 N. 63rd St.	Philadelphia
Hastings, Mildred E.	Graduate Hospital	Philadelphia
Hendricks, Martha L.	West Side Hospital	Scranton
Hitz, Leta A.	Community Hospital	Kane
Hobek, Margaret A.	Canonsburg General Hospital	Canonsburg
Houck, Edna I.	Philipsburg State Hospital	Philipsburg
Hough, Loretta A.	Westmoreland Hospital	Greensburg
Hovanec, Anne F.	Jameson Memorial Hospital	New Castle
Hume, Margaret E.	West Penn Hospital	Pittsburgh
Hunter, Bessie F.	Mt. Sinai Hospital	Philadelphia
Hurd, Sara B.	Memorial Hospital	Roxborough, Phila.
Ilaqua, Mrs. Margaret	170 Green Lane	Philadelphia
Ingram, Nancy	Philadelphia General Hospital	Philadelphia
Irons, Edwina M.	Episcopal Hospital	Philadelphia
Jacobs, Mrs. Grace H.	427 Laura St.	Philipsburg
Jarvis, Mary C.	Eye and Ear Hospital	Pittsburgh
Jenkins, Anna T.	State Hospital	Ashland
Johnston, Naomi A.	Methodist Hospital	Philadelphia
Jones, Katherine	Elizabeth Steel Magee Hospital	Pittsburgh
Jones, Verona M.	Uniontown Hospital	Uniontown
Karns, Irene	McKeesport Hospital	McKeesport
Kaufmann, Mrs. Alverta***	2419—5th Ave.	Altoona
Kauffman, Anna Isabelle	Lancaster General Hospital	Lancaster
Keebler, Sarah S.	3523 Aspen St.	Philadelphia
Kelly, Mrs. Alice D.	Mercy Hospital	Scranton
Kelly, Catherine E.	Eye and Ear Hospital	Pittsburgh
Kenney, Ellen E.	State Hospital	Nanticoke
Kimmel, Edith M.	Bryn Mawr Hospital	Bryn Mawr
King, Madeleine M.	848 Park Ave.	Meadville
Kissell, Esther M.	Harrisburg Hospital	Harrisburg
Knicely, Helena K.	Oil City General Hospital	Oil City
Knipper, Margaret E.	St. Joseph's Hospital	Philadelphia
Kolker, Bessye R.	Mt. Sinai Hospital	Philadelphia
Kramlich, R. Margaret	3804 Chestnut St.	Philadelphia
Krause, Helen C.	Temple University Hospital	Philadelphia
Kutz, Anna Marie***	50 W. Main St.	Glen Lyon
Lane, Margaret M.	6921 Saybrook Ave.	Philadelphia
Langan, Kathryn L.	1509 Snyder St.	Reading
Leidy, Mrs. Albertine R.	51 N. 40th St.	Philadelphia
Lewis, Hazel M.	Graduate Hospital	Philadelphia
Light, Dorothy O.	115 S. Railroad St.	Hummelstown
Lillig, Mary W.	1920 Spring Garden St.	Philadelphia
Lindberg, Gladys L.	603 Waddell Ave.	Clairton
Linden, Christine E.	Pittston State Hospital	Pittston
Lindsay, Mrs. Marcelene***	4036 Walnut St.	Philadelphia
Lloyd, M. Elizabeth	255 S. 17th St.	Philadelphia
Logue, Lois B.	Adrian Hospital	Punxsutawney
Lucas, Clara E.	University of Penna. Hospital	Philadelphia

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Lutz, Bertha M.	Locust Mt. State Hospital	Shenandoah
McCullough, Sylvia I.	2139 Green St.	Philadelphia
McFate, Isabel	Memorial Hospital	Johnstown
McGeary, Mary V.	438 Maple Ave.	Jenkintown
McIsaac, Kathryn M.	Columbia Hospital	Pittsburgh
McLaughlin, Lucille C.	Westmoreland Hospital	Greensburg
McNary, Mrs. Helen B.***	358 Locust St.	Washington
Machusak, Anne	Polyclinic Hospital	Harrisburg
Maguire, Sarah A.	Franklin Hospital	Franklin
Mansfield, Dora M.	Elizabeth Steel Magee Hospital	Pittsburgh
Margison, Mathilda M.	St. Francis Hospital	Pittsburgh
Martin, Mrs. Anna Lee	1830 Delancey St.	Philadelphia
Massa, Irma E.	Children's Hospital	Pittsburgh
Matter, Kate M.	320 Market St.	Lykens
Mayer, Amelia	Shadyside Hospital	Pittsburgh
Mehold, Caroline S.	Geisinger Memorial Hospital	Danville
Mest, Rebecca	Pottstown Hospital	Pottstown
Meszaras, Rose	Box 122	Riegelsville
Millard, Eliz. J.	Lancaster General Hospital	Lancaster
Miller, Anna J.	5506—5th Ave.	Pittsburgh
Miller, Emma A.	Geisinger Memorial Hospital	Danville
Miller, Mary E.	York Hospital	York
Miller, Zella C.	Jameson Memorial Hospital	New Castle
Minteer, Sara A.	Montefiore Hospital	Pittsburgh
Monske, Freda L.	University of Penna. Hospital	Philadelphia
Moore, Rae E.	Valley Hospital	Sewickley
Morris, Mrs. Mildred M.	339 Ormond Ave.	Sharon
Morrison, Jessie M.	Chester Hospital	Chester
Morrison, Maria M.	Elizabeth Steel Magee Hospital	Pittsburgh
Myers, Margaret	Williamsport Hospital	Williamsport
Nelson, Mrs. Jennie Lockw'd	2047 E. Pickwick St.	Philadelphia
Newcomer, Margaret J.	St. Francis Hospital	Pittsburgh
Noll, Katherine B.	Memorial Hospital	Monongeheia
Oberholtzer, Irene S.	Pottstown Hospital	Pottstown
O'Hara, Marjorie E.	Mercy Hospital	Johnstown
O'Harra, Marian		Swiftwater
Page, Mrs. Julia E.	Chester County Hospital	West Chester
Pearson, Mrs. Ailene Long	R. D. No. 1	Hellertown
Peterson, Esther E.	Chester County Hospital	West Chester
Pflieger, Bregetta F.	Mercy Hospital	Johnstown
Plowman, Katherine A.	Harrisburg Hospital	Harrisburg
Pnellie, Lena M.	Elk County General Hospital	Ridgeway
Ponesmith, Mrs. Sara S.***	236 Walton St.	Lemoyne
Powell, Mrs. Beatrix L.	15 E. Washington St.	Bradford
Powell, Dora E.	Taylor Hospital	Ridley Park
Rafferty, Elizabeth M.	Northern Liberties Hospital	Philadelphia
Rapp, Elizabeth***	Lankenau Hospital	Philadelphia
Rau, Mary M.	Shelby Hospital	Ellwood City
Ray, Mary M.	Andrew Kaul Memorial Hospital	St. Mary's
Redelberger, Edith K.	1512 W. Louden St.	Philadelphia
Reese, Elizabeth M.	Lying-In Hospital	Philadelphia
Reigel, Ruth A.	Frankford Hospital	Philadelphia
Richter, Leola M.	Presbyterian Hospital	Pittsburgh
Ritzert, Mildred	Eye and Ear Hospital	Pittsburgh
Roenbaugh, Mary A.	West Penn Hospital	Pittsburgh
Rose, Anna Marie S.	St. Margaret's Memorial Hosp.	Pittsburgh
Rose, Winifred	Allegheny General Hospital	Pittsburgh
Sister M. Alacoque	St. Joseph's Hospital	Pittsburgh

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Sister M. Audrey Wagner	St. Vincent's Hospital	Erie
Sister Mary Clarence	Mercy Hospital	Altoona
Sister M. Dacia	Sacred Heart Hospital	Allentown
Sister Mary de Lellis	Misericordia Hospital	Philadelphia
Sister M. Frances Helene	St. Agnes Hospital	Philadelphia
Sister Mary Grace King	Mercy Hospital	Johnstown
Sister M. Irma Gatens	1636 N. Broad St.	Philadelphia
Sister Jos. Theresa McHugh	St. Joseph's Hospital	Pittsburgh
Sister Mary Jude McCall	Pittsburgh Hospital	Pittsburgh
Sister Mary Laurencita Klekota***	St. Joseph's Hospital	Reading
Sister M. Lucian Gul	Nazareth Hospital	Philadelphia
Sister M. Ludgeris	Sacred Heart Hospital	Norristown
Sister M. Patrick Mahoney	St. Agnes Hospital	Philadelphia
Sister Mary Pulcheria	Sacred Heart Hospital	Allentown
Sister M. Theodefrieda	Sacred Heart Hospital	Allentown
Sister Mary Theodore Hale	3339 McClure Ave.	Pittsburgh
Salomon, Hilda R. (Life Member Amer. Association of Nurse Anes.)	Jewish Hospital	Philadelphia
Schissler, Ruth I.	Nason Hospital	Roaring Spring
Schramm, Mrs. Naomi M.***	1621—4th St.	New Brighton
Schwab, Florence	Temple University Hospital	Philadelphia
Scott, Lora E.	Robert Packer Hospital	Sayre
Sergeant, Hannah M.	505 Bridge St.	Johnsonburg
Shaughnessy, Helen C.	Howard St.	Bellefonte
Shekletski, Blanche	Jewish Hospital	Philadelphia
Sherlock, Winifred M.	191 W. Godfrey Ave.	Philadelphia
Sherman, Martha C.	701 E. Parkway	McKeesport
Sinkler, Elsie B.	41 Summit St.	Philadelphia
Sisson, Daisy	St. Luke's Hospital	Bethlehem
Smiser, Mrs. Elizabeth S.	8835 Germantown Ave.	Philadelphia
Smith, Mrs. Myrtle W.***	3916 Beechwood Blvd.	Pittsburgh
Snyder, Myrta E.	Reading Hospital	Reading
Spangler, Grace L.	York Hospital	York
Staiger, Esther M.	1421 Arch St.	Philadelphia
Stewart, Ida	Titusville Hospital	Titusville
Strausser, Helen C.	Homeopathic Hospital	Pottstown
Stout, Evelyn N.	Abington Memorial Hospital	Abington
Streeter, Charlotte M.	Jamison Memorial Hospital	New Castle
Suter, Magdalene	Girard College Infirmary	Philadelphia
Tash, Kathryn Lynn	523 Hampshire Rd.	Drexel Park
Taylor, Edna Mae	Armstrong County Hospital	Kittanning
Templeton, Jean E.	West Side Hospital	Scranton
Thomas, Anna	Wilkes Barre General Hospital	Wilkes Barre
Turner, Lillian M.	Butler County Memorial Hosp.	Butler
Ulshafer, Nellie M.	State Hospital	Hazleton
Ungerman, Florence E.	Shadyside Hospital	Pittsburgh
Van Aux, Caroline	Scranton State Hospital	Scranton
Vander Burgh, Geraldine G.	928 Campbell St.	Williamsport
Vichulis, Gussie E.	Germantown Hospital	Philadelphia
Vogel, Adelinda A.	223 Grant Ave.	Millvale
Vogt, Adeline E.	Mercy Hospital	Pittsburgh
Wagaman, Ruth C.	5032 Hazel Ave.	Philadelphia
Wagner, Florence E.	Pennsylvania Hospital	Philadelphia
Walker, Mrs. Helen Y.**	1824 Wallace St.	Philadelphia
Waller, Mrs. Grace P.	Bloomsburg Hospital	Bloomsburg
Weidman, Beatrice A.	Episcopal Hospital	Philadelphia
Wells, Mary D.	Lemos B. Warne Hospital	Pottsville

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West, Louise	Abington Memorial Hospital	Abington
Westbrook, Edith	Episcopal Hospital	Philadelphia
Whisler, Edna M.	826 Edgemont Ave.	Chester
Whitman, Irene	Frankford Hospital	Philadelphia
Wigmore, Mrs. Mary McB.	Greenville Hospital	Greenville
William, Ernestine F.	Indiana Hospital	Indiana
Williams, Grace	Allegheny General Hospital	Philadelphia
Windisch, Mrs. Elsa F.***	6730 N. 13th St.	Coplay
Windish, Florence J.	30 S. 3rd St.	Pittsburgh
Witherspoon, Mrs. Helen L.	Box 122	Perryville
Wolak, Frances	St. Francis Hospital	Pittsburgh
Wood, Mrs. Ruth L.	54 Grove Ave.	Flourtown
Wright, Dorothy E.	Mt. Sinai Hospital	Philadelphia
Yerger, M. Sylvania	Miners Hospital	Spangler
Yocum, Mrs. Florence M.	365 Mt. Vernon St.	Lansdale
Youngman, Mrs. Thelma***	115 W. Market St.	Danville
Zack, Emily E.	St. Joseph's Hospital	Reading
Zeiser, Katherine	Greene County Memorial Hosp.	Waynesburg
Zellfelder, Marie	6422 Norwood St.	Philadelphia

RHODE ISLAND

MacLeod, Katherine G.	Rhode Island Hospital	Providence
Weinberger, Berte	123 Elmwood Ave.	Providence

SOUTH CAROLINA

Adcock, Alice	Columbia Hospital	Columbia
Ballintine, Ruth	Berkeley County Hospital	Moncks Corner
Davies, Eliza H.	Roper Hospital	Charleston
Davies, Wilhelmina	Providence Hospital	Columbia
Donnan, Jane	2813 Wilson St.	Columbia
Hinnant, Mary F.	1427 Pickens St.	Columbia
Meyer, Annie J	279 Meeting St.	Charleston
O'Leary, Glena B.	Roper Hospital	Charleston
Sister M. Hilda Rieder	St. Philip Mercy Hospital	Rock Hill
Sister M. John Halter***	Providence Hospital	Columbia
Verner, Lucy P.	1319 Bull St.	Columbia
Wells, Mrs. Jewell R.	Roper Hospital	Charleston

SOUTH DAKOTA

Hanner, Bonnie B.	Methodist State Hospital	Mitchell
Hoffman, Edna L.	25½ East Kemp St.	Watertown
Mirick, Grace	Methodist Hospital	Rapid City
Nelson, Lavina	Brookings Municipal Hospital	Brookings
Reagan, Genevieve	Sioux Valley Hospital	Sioux Falls
Sister M. Camillus Shealy	McKennan Hospital	Sioux Falls
Sister Mary Celine	St. Luke's Hospital	Aberdeen
Sister M. Donata Bentele	Sacred Heart Hospital	Yankton
Sister M. Elizabeth Seman	St. John's Hospital	Rapid City
Sister M. Eulalia	St. Joseph's Hospital	Mitchell
Sister M. Laurentia Schendt	St. Joseph's Hospital	Deadwood
Sister Mary Luke	McKennan Hospital	Sioux Falls
Sister M. Magna Henggeler	St. Mary's Hospital	Pierre
Sister M. Matilda	St. Joseph's Hospital	Mitchell
Sister M. Rose McCormick	St. Luke's Hospital	Aberdeen
Sister Mary William***	St. Joseph Hospital	Mitchell
Skinner, Mrs. Marjory M.	St. Joseph's Hospital	Deadwood

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TENNESSEE

Baxter, Ethel	175 S. Camilla	Memphis
Beckham, Marion G.	Nashville General Hospital	Nashville
Bryant, Nettie M.	1634 Euclid Ave.	Memphis
Caldwell, Bessie	Takoma Hospital & Sanitarium	Greeneville
Caldwell, Mazie L.	919 E. McLemore	Memphis
Couch, Inez	St. Thomas Hospital	Nashville
Crabtree, Willie Carr	c/o Dr. George Williamson	Columbia
Dill, Lelia Bennette	Vanderbilt University Hospital	Nashville
Donk, Louise deVries	2119 Garland Ave.	Nashville
DeLoach, Mary T.	580 Cambridge St.	Memphis
English, Thelma H.	Poplar Bluff, Mo. (temporary)	
Estes, Mary Laird	Children's Hospital	Chattanooga
Fink, Jewelle C.**	Physicians & Surgeons Building	Memphis
Gaffeney, Mrs. Lucy B.	Hayes Hospital	Brownsville
Halford, Louise Green	309—22nd St., North	Nashville
Hawne, Ruthie E.	Crisler Clinic	Memphis
Hobson, Mrs. Archie D.	Box 1465	Knoxville
Hohenschutz, Caroline	St. Mary's Hospital	Knoxville
Holland, Zelda C.	St. Joseph's Hospital	Memphis
Houser, Mrs. Jennie	899 Madison	Memphis
Jarrell, F. Beatrice	716 Churchwell Ave.	Knoxville
Lewis, Shirley E.	St. Thomas Hospital	Nashville
Little, Alice	Methodist Hospital	Memphis
McCue, Mary Ellen	John Gaston Hospital	Memphis
McElroy, Mary Jean	1914 Grand Ave.	Nashville
McNeill, Lillie	Barr's Infirmary, 800—19th Ave.	Nashville
Milligan, Mary	Colonial Apts.	Nashville
O'Brien, Jean	869 Madison	Memphis
Rossi, Mrs. Antoinette L.	335 Edith Place	Memphis
Sister Estelle Helwick	St. Thomas Hospital	Memphis
Seller, Ethel	1236 Madison Ave.	Nashville
Sims, Alice M.	1301 Eastmoreland	Memphis
Sinquefield, Mrs. Nina K.	Davidson Co. Tuberculosis Hosp.	Nashville
Skinner, Mrs. Grace M.	Baptist Hospital	Memphis
Spear, Bernice	St. Thomas Hospital	Nashville
Sullivan, Alberta Kime	48 S. Diana St.	Memphis
Stephens, Margaret E.	325—22nd Ave., North	Nashville
Swetman, Minnie E.	U. S. Marine Hospital	Memphis
Trail, Mrs. Theresa W.	618 Stonewall St.	Memphis
Troster, Mrs. Gertrude*	654 Stonewall Pl.	Memphis
Turder, Mary Bess	Methodist Hospital	Memphis
Vermillion, Mrs. Ester M.	Holston Valley Community Hosp.	Kingsport
Vickers, Hattie	Vanderbilt University Hospital	Nashville
Walcher, Dorothy E.	Rutledge Pike, R. 5, c/o Mr. Schwab	Knoxville
Walker, Mrs. Mary Rowland	Box 955	Madison
Williams, Jennie Florence	St. Joseph Hospital	Memphis
Wolff, Waverlyn	Baptist Hospital	Memphis

TEXAS

Alvey, Zelma E.	St. Paul's Hospital	Dallas
Anderson, Adelia M.	1302 Main St.	Lubbock
Armstrong, Jessie	Missouri Pacific Hospital	Palestine
Arnold, Nancy	Hotel Dieu Hospital	El Paso
Baker, Mamie L.	Sweetwater Hospital	Sweetwater
Baker, Mrs. Gertrude M.	Shannon Memorial Hospital	San Angelo
Barker, Mrs. Ola Olmstead	Cook Memorial Hospital	Ft. Worth

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Beck, Osa*	Medical and Surgical Clinic	San Angelo
Behrns, Mrs. Ida Moore	Heights Hospital	Houston
Bevers, Mrs. Avis McKinney	Methodist Hospital	Dallas
Bomen, Mrs. Eunice	Wilson N. Jones Hospital	Sherman
Braatz, Edna M.	Nan Travis Memorial Hospital	Jacksonville
Brown, Evelyn E.	St. Mary's Infirmary	Galveston
Buckner, Mrs. Margaret M.	St. Joseph's Hospital	Ft. Worth
Cable, Marcella A.	Hermann Hospital	Houston
Campbell, Allie Mae	Waxahachie Hospital	Waxahachie
Childress, Mrs. Jack K.**	716 W. Ave., G	Temple
Compton, Mrs. Jessie Lee	702 Winston	Dallas
Creed, Willie Lee	Wichita Falls Clinic Hospital	Wichita Falls
Davis, Clara F.	Wichita Falls Clinic Hospital	Wichita Falls
DeLay, Martha	Paris Sanitarium	Paris
Denison, Grace	Wichita General Hospital	Wichita Falls
DeVet, Friedah M.	508 Norwood Bldg.	Austin
Didner, Helen	Providence Hospital	Waco
Drucke, Cliffie B.	Waxahachie Sanitarium	Waxahachie
Dumas, Frances Ellen	Graham Hospital	Graham
Frauson, Delphine E.	All Saint's Hospital	Ft. Worth
Frugé, Allie Mae	St. Mary's Infirmary	Galveston
Gandy, Hellon	Route 4	Temple
Haas, Minnie V.	1617 May St.	Ft. Worth
Hackworth, Winnifred	St. Joseph's Infirmary	Houston
Harris, Sarah E.	Wood Hospital	Odessa
Harrist, Mrs. M. Elizabeth	1301 Broadway	Lubbock
Headlee, Mrs. Marie S.	Headlee Hospital	Odessa
Hoadley, Dorothy M.	Harris Mem'l Methodist Hosp.	Ft. Worth
Hoffman, Laura	920—5th Ave.	Ft. Worth
Hoiland, Mrs. Hubert	2307—6th Ave.	Ft. Worth
Houle, Eugenie L.	Coffey Clinic	Ft. Worth
Hambrick, Mrs. Gladys H.	Scottish Rite Hospital	Dallas
Jarman, Vesta P.	Robstown Clinic	Robstown
Kirven, Sarah	Torbett Sanitarium	Marlin
Knebel, Viola E.	Crockett Clinic	Crockett
Knight, Sallie F.	Baylor Hospital	Dallas
Kosanke, Allie F.	Bryant Clinic	Tyler
Laurie, Mrs. Inez Hammack	City and County Hospital	Ft. Worth
Layer, Virginia L.	104 Buena Vista	San Antonio
Long, Pearl E.	Markham McRei Hospital	Longview
Larsen, Sylvia J.***	849 W. Kingsmill St.	Pampa
McBride, Mrs. Thelma	Parkland Hospital	Dallas
McLeod, Catherine S.	McKinney City Hospital	McKinney
McCrumb, Sue W.	c/o C. F. Barnhill	Silsbee
Mercer, Ora Lee	3359 Parkridge	Ft. Worth
Mills, Beatrice J.	St. Paul's Hospital	Dallas
Moriarty, Vera	Baylor Hospital	Dallas
Morse, Mrs. Lydia C.	Jefferson Davis Hospital	Houston
Nelson, Jessie V.	Providence Hospital	Waco
Rape, Vergie E.	Hemlock Memorial Hospital	Abilene
Richardson, Grace	2624 Greene Ave.	Ft. Worth
Riek, Lucia L.	St. Paul's Hospital	Dallas
Roemmele, Rena F.	Heights Hospital	Houston
Ross, Celeste	All Saint's Hospital	Ft. Worth
Ryan, Wanda Low***	2500 Jennings	Ft. Worth
Sister Mary Robert Armstrong	St. Joseph's Hospital	Wellington
Sage, Mrs. Dorothy Lee	3400 Swiss Ave.	Dallas

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Strange, Beulah	Baylor Hospital	Dallas
Teague, Madge M.	Parkland Memorial Hospital	Dallas
Thompson, Florence	Patterson Memorial Hospital	Troup
Thompson, Mrs. Velma G.	Baylor Hospital	Dallas
Tuley, Mrs. Gertrude	2811 Hemphill	Ft. Worth
Vetesk, Elva Jean	Box 655	Texarkana
Voight, E. Thelma	5455 Goodwin	Dallas
Warren, Grace	704 Highland Ave.	Houston
West, Mrs. Alva G.***	1230 Hurley Ave.	Ft. Worth
Wilson, Mrs. C. E	Box 17	Wink
Wratten, Fola Mae	Robstown Clinic Hospital	Robstown
Young, Mrs. Ruth P.	4105 Live Oak St.	Dallas

UTAH

Bigler, Asenath	L. D. S. Hospital	Salt Lake City
Garrison, Mayme C.	L. D. S. Hospital	Salt Lake City
Hood, Gladys	516 N. 1st, West	Salt Lake City
Mickelson, Anne	The Salt Lake Clinic	Salt Lake City
Monfredi, Joanna R.	Box 457	Price
Mulvane, Lucile	Dee Hospital	Ogden
Steel, Janet R.	1545 Logan Ave.	Salt Lake City

VERMONT

Northrup, Margaretta M.	Springfield Hospital	Springfield
Richards, Maude E.	Brattleboro Memorial Hospital	Brattleboro

VIRGINIA

Addleman, Ollie M.	Cabaniss Hall	Richmond
Ailstock, Harriet V.	Parrish Memorial Hospital	Portsmouth
Allison, Beatrice	Pulaski Hospital	Pulaski
Anderson, Clara V.**	Norfolk General Hospital	Norfolk
Bakes, Cordelia B.	Norfolk General Hospital	Norfolk
Behnke, Lucile R.	213 Wilkes Street	Alexandria
Brandon, Margaret	Petersburg Hospital	Petersburg
Copeland, Vera G.	St. Elizabeth's Hospital	Richmond
Cox, Mrs. Marion A.	Riverside Hospital	Newport News
Darlington, Thelma C.	Danville Community Hospital	Danville
Doss, Mrs. Julian B.	The Green Oak	Penn Hook
Farrell, Agnes M.	St. Luke's Hospital	Richmond
Felgendrager, Rosena J.	Memorial Hospital	Danville
Forgie, Nancy F.	Memorial Hospital	Lynchburg
Gardner, Martha	Lewis Gale Hospital	Roanoke
Gaymer, Dorothy	Stuart Circle Hospital	Richmond
Gills, Mary F.	Petersburg Hospital	Petersburg
Hall, Ester H.	N. A. Memorial Hospital	Nassawadox
Hepp, Mrs. Myrle Chapin	University of Virginia Hospital	Charlottesville
Irving, Mrs. Geneva F.	Southside Hospital	Farmville
Jennings, Lucinda G.	St. Vincent's de Paul Hospital	Norfolk
Lambert, Lillian I.	U. S. Marine Hospital	Norfolk
Lawhorne, Mrs. Elsie V.	Clinch Valley Clinic	Richland
Leftwich, Gladys L.	Lewis-Gale Hospital	Roanoke
MacGregor, Elizabeth N.	Alexandria Hospital	Alexandria
Marberry, Eunice V.	Jefferson Hospital	Roanoke
Massie, Cora	Grace Hospital	Richmond
Mays, Carrie V.	University of Virginia Hospital	Charlottesville
Nitsche, Martha E.	Winchester Memorial Hospital	Winchester
Pace, Lucille McLain	2924 Brook Road	Richmond
Payne, Mrs. Minnie Freese	University of Virginia Hospital	Charlottesville

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Riner, Essie F.	Shenandoah Hospital	Roanoke
Robinson, Mrs. Lorene L.	2614 Grove Ave.	Richmond
Rosenbaum, Leah L.	St. Vincent's Hospital	Norfolk
Rudkin, Margaret F.	Johnston Memorial Hospital	Abingdon
Schoch, Icie A.	Alexandria Hospital	Alexandria
Scott, Georgia C.	Lewis-Gale Hospital	Roanoke
Sister Zoe Kelley	St. Vincent's de Paul Hospital	Norfolk
St. Pierre, Ozity	Roanoke General Hospital	Roanoke
Shiley, Marguerite B.	Martha Jefferson Hospital	Charlottesville
Supinger, Virginia S.	Dixie Hospital	Hampton
Thomas, Ann Cosby	Virginia Baptist Hospital	Lynchburg
Ward, Mrs. Eloise E.*	Norfolk General Hospital	Norfolk
Wells, Mrs. Hazel B.	Riverside Hospital	Newport News
Whitmer, Nora	St. Luke's Hospital	Richmond

WASHINGTON

Anderson, Ruth Ann	Providence Hospital	Everett
Anderson, Mrs. Marion***	1916 So. Washington St.	Tacoma
Anderson, Mrs. Louise S.	1901 So. "G" St.	Tacoma
Andrews, Pearl	600 Central Bldg.	Everett
Arnold, Dorothy L.	R. D. 1, W. Brown	Pasco
Borgardts, Mrs. Katherine T.	E. 1621 Everett St.	Spokane
Butler, Mrs. Mae D.	Sacred Heart Hospital	Spokane
Cairns, Mrs. Clare L.***	301 Methow St.	Wenatchee
Cameron, Frances A.	St. Elizabeth's Hospital	Yakima
Chapman, Sylvia M.	Tacoma General Hospital	Tacoma
Claude, Alice M.	507 Jamieson Bldg.	Spokane
Cleary, Kathleen M.	Children's Orthopedic Hospital	Seattle
Decker, Mrs. Elvina Petow	Box 849	Grand Coulee
Dorweiller, Margaret	Marine Hospital	Seattle
Dow, Mrs. Lenore Patton	Everett General Hospital	Everett
Edin, Ruth M.	1120 Boylston	Seattle
Ellstrom, Edith	Swedish Hospital	Seattle
Emery, Alda M.	St. Anthony's Hospital	Wenatchee
Erdahl, Esther	Tacoma General Hospital	Tocoma
Espe, Ida	Swedish Hospital	Seattle
Finney, Mrs. Thelma E.	Junior Red Cross Clinic	Spokane
Fish, Isabelle	8328 Island Drive	Seattle
Gilbert, Lorraine	Mt. Carmel Hospital	Colville
Gill, Edyth M.	Pierce County Hospital	Tacoma
Gorsegnor, Mrs. Helen N. M.	1211 Peabody St.	Port Angeles
Grewer, Mrs. Florence	Cowlitz General Hospital	Longview
Herin, Miriel	Maynard Hospital	Seattle
Hohensee, Gladys	211 W. 7th S.	Port Angeles
Houston, Genevieve F.	Pierce County Hospital	Tacoma
Hunter, Nora Jane	St. Joseph's Hospital	Aberdeen
Hynson, Mrs. Gene	4727 Brooklyn Ave.	Seattle
Jones, Mrs. Beatrice Massey	Swedish Hospital	Seattle
Keller, Hazel C.	Aberdeen General Hospital	Aberdeen
Kenney, Mary	Providence Hospital	Seattle
Kerrigan, Mrs. Kathleen	128 Harvard, No.	Seattle
Kester, Mrs. Hilda H.***	329 S. Elm St.	Colville
Kilbride, Mrs. Rose A.	Rivercrest Hospital	Spokane
Koski, Elsa A.	Tacoma General Hospital	Tacoma
Langlow, Mrs. Mona R.		Harrington
Lamp, Mrs. Marie C.***	3832 Fawcett St.	Tacoma
Layton, Mrs. Marguerite	S. 702 Lake St.	Colfax
Lee, Martha B.	Puyallup General Hospital	Puyallup
Leonard, Mary E.	Paulsen Med. & Dent. Hospital	Spokane

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Lothspeich, Sabina	Box 703	Colfax
Maki, Saima M.	Providence Hospital	Seattle
Mansur, Evelyn	Everett General Hospital	Everett
Marteen, Gladys K.		College Place
McDonald, Nell J.	Washington Minor Hospital	Tacoma
Miller, Lillian C.	708 Stimson Bldg.	Seattle
Morgan, Mrs. Marjorie***	Veteran's Hospital	American Lake
Murch, Edna V.	St. Mary's Hospital	Walla Walla
Neily, Mrs. Eileen L.***	2153—8th N.	Seattle
Nixon, Mrs. Dorothy G.	13539—15th N. E.	Seattle
Olsen, Marguerite M.	St. Elizabeth's Hospital	Yakima
O'Neil, Charlotte V.	St. Luke's Hospital	Spokane
Palmer, Mrs. Henrietta	Washington Minor Hospital	Tacoma
Peel, Netta	509 American Bank Bldg.	Seattle
Peterson, Helen H.	607 Med. & Dent. Bldg.	Seattle
Peterson, Mrs. Mildred**	705 Broadway	Seattle
Pickard, Mrs. Leta Minden	Paulsen Med. and Dental Hosp.	Spokane
Presnell, Mrs. Agnes E.	Newport Hospital	Newport
Pursell, Emily S.	10 S. 9th Ave.	Yakima
Quirk, Catherine Pat	Piedmont Hotel	Seattle
Roberts, June C.*	Sacred Heart Hospital	Spokane
Robinson, Mrs. Helen B.	4815—36th N. E.	Seattle
Rowlands, Mrs. Nan	607 Med. & Dent. Bldg.	Seattle
Rudkin, Esther	Deaconess Hospital	Spokane
Rutt, Florence M.	222 St. 18th Ave.	Yakima
Sister Mary Angela	St. Joseph's Hospital	Bellingham
Sister Mary Christina	Sacred Heart Hospital	Spokane
Sister Francis Thibodeau	St. Ignatius Hospital	Colfax
Sr. M Hercules St. Germain	Providence Hospital	Seattle
Sr. Jos. of Arimathea Hitu	Providence Hospital	Seattle
Sister M. Jucunda	St. Martin's Hospital	Tonasket
Sr. Peter of Alcantara Adam	Sacred Heart Hospital	Spokane
Sr. Provid'ce of Sac'd Heart	St. Elizabeth's Hospital	Yakima
Sanford, Harriet		Bucoda
Scott, Alice C.	1914 Simpson Ave.	Aberdeen
Schwartz, Martha M.	Tacoma General Hospital	Tacoma
Scully, Elizabeth A.	Deaconess Hospital	Spokane
Searcy, Geraldine L.	Mason City Hospital	Mason City
Sellars, Alice E.	Maynard Hospital	Seattle
Shapton, Mamie P.***	614 N. G. St.	Tacoma
Simonson, Mary	Northern Pacific Hospital	Tacoma
Thomas, Audrey D.	Virginia Mason Hospital	Seattle
Ticknor, Mrs. Rose	911 Yakima Ave.	Seattle
Tramm, Mary Eileen	Deaconess Hospital	Spokane
Trapp, Clara M.	Sacred Heart Hospital	Spokane
Warneke, Myrtle	3303 E. Valley St.	Seattle
Wigen, Ragna P.	Ridpath Hotel	Spokane
Wilhelmy, Mrs. Marcella A.	Rockwood Clinic	Spokane
Willcutt, Ethel M.	848 S. Cowley St.	Spokane
Zeimantz, Helen M.	Sacred Heart Hospital	Spokane

WEST VIRGINIA

Blayney, Mrs. Amy C.	Ohio Valley General Hospital	Wheeling
Breakey, Nettie	State Hospital	Weston
de Graaf, Hermine	Charleston General Hospital	Charleston
Goode, Margaret T.	Kanawha Valley Hospital	Charleston
Hoffman, Mabel G.	Cook Hospital	Fairmont
Maye, Mary M.	Wheeling Hospital	Wheeling
Noel, Mrs. Nelle M.	Princeton Hospital	Princeton

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Reed, Pearl F.	c/o Gleason Reed	Beaver
Sister M. Damiana Quack	St. Joseph's Hospital	Buckhannon
Sister M. Richardis Schulte	Sacred Heart Hospital	Richwood
Sherritt, Mrs. Eileen B.		Odd
Snyder, Mrs. Violet F.***	313 Tazewell St.	Bluefield
Swim, Thelma	Beckley Hospital	Beckley
Tackett, Lovie T.	Huntington Memorial Hospital	Huntington
Tierney, Mary A.	St. Mary's Hospital	Clarksburg
Weisman, Mrs. Rose S.		Parsons
White, Mary L.	McClung Hospital	Richwood

WISCONSIN

Anderson, Elvy H.	Box 85	Granite Heights
Anderson, Myrtle E.	Memorial Hospital	Wausau
Bader, Helen E.	St. Luke's Hospital	Milwaukee
Blessin, Mary M.	Richland Hospital	Richland Center
Blickendorfer, Ann	2200 W. Kilbourn Ave.	Milwaukee
Bruce, Era J.	Walworth County Hospital	Elkhorn
Botsford, Daisy G.	Theda Clark Memorial Hospital	Neenah
Brennan, Mrs. Florence B.	3669 East Allerton Ave.	Cudahy
Bridenhagen, Leona	Bellin Memorial Hospital	Green Bay
Cameron, Catherine	5000 West Chambers St.	Milwaukee
Campbell, Julia I.	619 North 16th St.	Milwaukee
Donovan, Mary	Milwaukee Co. General Hospital	Wauwatosa
Edwards, Esther	Wausau Memorial Hospital	Wausau
Eldredge, Mildred C.	St. Luke's Hospital	Racine
Endthoff, Margaret M.	St. Clare Hospital	Monroe
Esval, Sigrid	Luther Hospital	Eau Claire
Faraher, Mrs. Helen Clair	Madison General Hospital	Madison
Fitzgerald, Helen B.	311 Beaser Ave.	Ashland
Flasch, Ada M.	St. Mary's Hospital	Milwaukee
Frusher, Mrs. Marie Spaude	Madison General Hospital	Madison
Harkins, Catherine	2650 North 60th St.	Milwaukee
Higgins, Mrs. Leona R.***	2213 Oakridge Ave.	Madison
Horrer, Alice L.	St. Luke's Hospital	Milwaukee
Jacke, Elisabeth	St. Joseph's Hospital	Milwaukee
Jahn, Julia C.	4315 West Lisbon Ave.	Milwaukee
Johnson, Mabel E.	Sheboygan Memorial Hospital	Sheboygan
Karlovic, Mrs. Mary Srock	St. Mary's Hospital	Madison
Kraft, Marie	Methodist Hospital	Madison
Laughlin, Rose	Mt. Sinai Hospital	Milwaukee
McGinley, Edith	St. Claire Hospital	Monroe
Magnin, Martha M.	5000 West Chambers St.	Milwaukee
Mayer, Marguerite E.	Marshfield Clinic	Marshfield
Messinger, Jessie B.	Columbia Hospital	Milwaukee
Miller, Helen M.	Bellin Memorial Hospital	Green Bay
Moberg, Hilda L.	Reedsburg Municipal Hospital	Reedsburg
Neal, Laura V.	Box 66	Seymour
Nelsen, Camilla M.	3038 North Cramer St.	Milwaukee
Nye, Viola	5000 West Chambers St.	Milwaukee
Phillips, Clara M.	Madison General Hospital	Madison
Phillips, Louise M.	St. Mary's Hospital	Madison
Reynolds, Vera	5000 West Chambers St.	Milwaukee
Ries, Anna J.	St. Mary's Hospital	Rhinelander
Sister M. Agatha Gerber	St. Mary's Hospital	Rhinelander
Sister M. Baromea	St. Nicholas Hospital	Sheboygan
Sister M. Bernadette	5000 West Chambers St.	Milwaukee
Sister Clarissa Donovan	Langlade Memorial Hospital	Antigo
Sister M. Clementia Vogel	St. Elizabeth's Hospital	Appleton

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Sister M. Conradine Flasch	5000 West Chambers St.	Milwaukee
Sister M. Eliud	St. Joseph's Hospital	Beaver Dam
Sister M. Emilia O'Farrell	St. Catherine's Hospital	Kenosha
Sister M. Florine	St. Vincent's Hospital	Green Bay
Sister M. Furniss	St. Joseph's Hospital	Hartford
Sister M. Jeanne Mays	St. Francis' Hospital	La Crosse
Sister M. Joseph Meaden	St. Joseph's Hospital	Dodgeville
Sister M. Mercedes	St. Elizabeth's Hospital	Appleton
Sister M. Pudencia	St. Vincent Hospital	Green Bay
Sister M. Reginald Wallig	St. Catherine Hospital	Kenosha
Sister M. Theonilla	St. Mary's Hospital	Wausau
Sister M. Vianney	St. Catherine's Hospital	Kenosha
Sister M. Yvonne Jenn	St. Francis' Hospital	La Crosse
Sedmihradsky, Lillian	Evangelical Deaconess Hospital	Milwaukee
Sauer, Olga E.	Milwaukee Hospital	Milwaukee
Schroeder, Norma E.	Milwaukee Hospital	Milwaukee
Sedwick, Gertrude	Shawano Municipal Hospital	Shawano
Skrener, Olga V.	St. Joseph's Hospital Annex	Milwaukee
Sorenson, Julia	Theda Clark Hospital	Neenah
Strong, Mrs. Helen Morris	128 S. Park St.	Richland Center
Taylor, Mrs. Viola Moser	2329 North 34th St.	Milwaukee
Teske, Mrs. Grace-Mary	303 North 76th St.	Milwaukee
Thielen, Leone A.**	St. Mary's Hospital	Racine
Thurman, Elizabeth	Kenosha Hospital	Kenosha
Tinker, Emma C.	1040 North 15th St.	Milwaukee
Ulbricht, Edna L.	St. Luke's Hospital	Milwaukee
Voller, Elizabeth M.	St. Elizabeth's Hospital	Appleton
Webster, Bonnie	Mt. Sinai Hospital	Milwaukee
Welsh, Mrs. Margaret G.	St. Mary's Hospital	Milwaukee
Weiss, Rose Mary	2320 North Lake Drive	Milwaukee
Werking, Melva L.	5000 West Chambers St.	Milwaukee
Winkjer, Olga	6308—8th Ave.	Kenosha
Woodrich, Catherine	St. Mary's Hospital	Milwaukee
Yanulis, Mary Ann*	Municipal Hospital	Beloit

WYOMING

Brown, Mrs. Josephine	Box 74	Jackson
Carlos, Lillian	Box 367	Sheridan
Derwae, Lillian I.	Carbon County Memorial Hosp.	Rawlins
Hoyt, Gladys	(Temporary—1748 Williams St., Denver, Colo.)	

HAWAII

Allen, Jeanette	Queen's Hospital	Honolulu
Amort, Alvina	Kula Sanatorium	Waiakoa
Barlow, Esther Ann	Kapiolani Hospital	Honolulu
Barton, Rose C.	Queen's General Hospital	Honolulu
Black, Minnie M.	Tripler General Hospital	Honolulu
Briten, Mrs. Marian***	2618 A. Waolani Ave.	Honolulu
Cain, Elsie M.	Kapiolani Hospital	Honolulu
de Shazo, Laura E.	P. O. Box 541	Hilo
Dumenda, Julia M.	Hilo Hospital	Hilo
Gandy, Hellon	St. Francis Hospital	Honolulu
Gentle, Marjorie M.	Queen's Hospital	Honolulu
Gibson, Frances	Queen's Hospital	Honolulu
Gordon, Mary K.	Queen's Hospital	Honolulu
Grieder, Helen A.	Paia Hospital	Paia, Maui
Koshel, Ann M.	St. Francis Hospital	Honolulu

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Littel, L. Rose	Pahala Hospital	Pahala
MacMillan, Marian	200 Dewey Ave.	Honolulu
Medlin, Doris E.	Tripler General Hospital	Honolulu
Shaver, Mrs. Elvie M.***	Naval Hospital	Pearl Harbor
Wagner, Erma F.	728 Twin Oaks Dr. (temporary)	Honolulu

CANADA

Anderson, Mrs. Jennie M.	Chipman Memorial Hospital	St. Stephen, N. B.
Cadwallader, Marian F.***	Fox Harbor, via Battle Harbor	Labrador
Cudmore, L. Mabel	48 The Oaks, Bain Ave.	Toronto, Ont.
Flewelling, Isabella M.	33 Oliver St.	Guelph, Ont.
Greene, Thelma	858 Wyandotte E.	Windsor, Ont.
Larkworthy, Mrs. Evangeline M.	P. O. Box 100	New Hazelton, B.C.

FOREIGN

Arthur, Joan	447 Norwood Road	London, S. E. 27, England
Cover, Beatrice	Lago Hospital	Aruba, N. W. I.
Gordon, Mabel	c/o American Embassy	Paris, France
Elliott, Mrs. Helen G.	Lago Oil & Transport Co.	Aruba, N.W.I.
Ludwig, Laura M.	Lago Oil & Transport Co.	Aruba, N.W.I.
Relihan, Mrs. Lerlene S.***	Box 1068	Balboa, Canal Zone
Sawyer, Myra L.	W. China Union Univ. Hospital	Chengtu, Szechwan, West China
Savage, Anne	Gorgas Hospital	Ancon, Canal Zone
Wetzel, Grace	c/o Standard Oil Co. of N. J.	San Nicholaas, Aruba, N. W. I.
Yarnall, Catherine E.	U. S. Naval Hospital	Caracao, Philippine Islands

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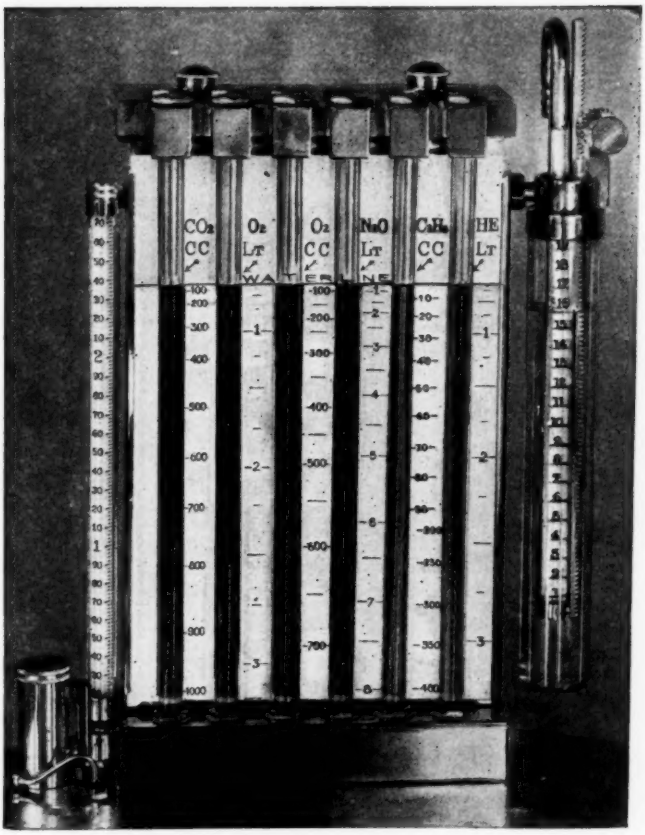
Signed .....
(Address in full) .....
Date..... .....



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